

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXV.

SATURDAY, AUGUST 11, 1894.

No. 6.

ORIGINAL ARTICLES.

ATONY OF THE INTESTINE.¹

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In an article on "Atony of the Stomach,"² published recently in *THE MEDICAL NEWS*, I pointed out the great confusion still existing concerning this condition. The same is true to a still greater degree in regard to atony of the large intestine.

Atony of the intestine is usually placed under the general heading of constipation, and scarcely any attempt is made to distinguish the various disorders of which this is merely a symptom. Thus Leichtenstern,³ in Von Ziemssen's *Cyclopedie*, treats of intestinal atony under the general head of habitual constipation, and does not suggest any method by which this form of constipation may be differentiated.

Henoch⁴ considers atony of the intestine one of the most frequent causes of constipation. He devotes considerable space to the treatment of the disorder.

Leube⁵ places atony of the intestine among the nervous intestinal disorders, and maintains that the resulting constipation is due to a lack of innervation.

Fleiner⁶ divides constipation into two general classes, the spastic and atonic forms. In the first form spastic contractions in various parts of the intestines cause the feces to be divided, and thus retained, while in the second form there is a general weakening of the muscles of the intestinal walls, with a similar result.

Rosenheim⁷ places atony of the bowel among the

intestinal neuroses, and believes that in many cases it is due to diminished peristaltic action resulting from deficient innervation, while in other cases it is due to primary weakening of the muscular walls.

Atony of the intestine may be described as that condition in which the walls of the colon have lost their tonicity, and are thus unable to expel the feces at the normal rate. Atony may be primary or secondary. It is *primary* in persons that have accustomed themselves to a diet that does not leave sufficient residue to stimulate intestinal peristalsis, or in whom the opposite condition has been produced by the excessive ingestion of too irritating food.

While the ingestion of excessive quantities of fluid leads to atony of the stomach, a certain quantity of fluid is requisite to aid in softening the hardened fecal masses in the intestine. A diet, therefore, consisting almost entirely of solid food, and containing but little fluid, is likely to produce primary atony of the intestine. Improper hygienic conditions may also lead to the production of the disorder. That those who are subject to sedentary habits and insufficient exercise are prone to become habitually constipated has long been known. The same is true of those who habitually neglect to attend to the calls of nature. Yet it is remarkable that many persons of the most sedentary habits may remain unaffected, while others who indulge in regular exercise suffer with chronic constipation (Henoch).¹

Not an unimportant part in the production of intestinal atony is the too frequent use of cathartics (Rosenheim),² which act more or less as irritants to the bowel and after a time leave it in a weakened condition.

Atony of the intestine may be *secondary* to many other disorders, such as obesity, anemia, and diseases of the heart, lungs, or liver, causing derangement of the circulation. It may also be secondary to diseases of the brain and spinal cord. Hysteria and neurasthenia, according to Dunin,³ predispose to the disorder.

Atony of the intestine is frequently a sequel of typhoid fever, dysentery, and cholera. It is often due to other diseases of the gastro-intestinal tract,

¹ Read at the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 26, 1894.

² "Atony of the Stomach," *THE MEDICAL NEWS*, December 23, 1893.

³ Leichtenstern : Von Ziemssen's *Cyclopedie*, American edition, vol. vii, p. 583.

⁴ Henoch : *Klinik der Unterleibs-krankheiten*, 3te Auflage, Berlin, 1863, pp. 480-503.

⁵ Leube : *Specielle Diagnose der Inneren Krankheiten*, Leipzig, 1891, 3te Auflage, p. 298.

⁶ Fleiner : "Ueber die Behandlung der Constipation, etc.," *Berliner klinische Wochenschrift*, 1893, No. 3, p. 60.

⁷ Rosenheim : *Krankheiten des Darms*, Wien, 1893, p. 495.

¹ Henoch : Loc. cit., p. 483.

² Rosenheim : Loc. cit., p. 498.

³ Dunin: "Ueber habituelle Stuholverstopfung, deren Ursachen und Behandlung," *Berliner Klinik*, 1891, Heft 34.

such as carcinoma of the stomach, chronic gastritis, gastropathy, intestinal catarrh, enteroptosis, and nervous dyspepsia. According to Peyer,¹ it is not infrequently found as a neurosis secondary to disorders of the male generative organs. The relaxation of the abdominal walls after frequent pregnancies likewise leads to this condition.

Atony of the intestine is frequently found in earliest childhood, and is at times congenital (Henoch²). In these cases it may become so marked as to produce actual dilatation. Such a case is reported by Fuetterer and Middeldorp.³ The sigmoid flexure of the colon was so dilated as to have a capacity of sixteen liters, and when filled occupied the entire abdominal cavity.

The disorder occurs as frequently in males as in females. The aged, in whom there is a general atonic condition of all organs, are especially subject to it.

The symptom of which patients suffering with intestinal atony complain is marked constipation. This is frequently the only symptom. At times it does not produce much annoyance. Cases have been recorded in which fecal evacuations have occurred at intervals of eight, twelve, or more days without causing any inconvenience. Thus, Henoch⁴ reports the case of a woman, sixty years old, who from her earliest years had evacuated her bowels but once every six or eight days, and whose health was in all other respects very good; and Chambers⁵ tells of an extraordinarily large and solid colon in a woman who, while in otherwise perfect health, had a movement of the bowel only once every fortnight.

However, the constipation usually becomes very annoying and produces great discomfort. The abdomen frequently becomes distended, giving rise to a feeling of fulness, while the formation of gas causes colicky pains and a desire to discharge flatus. Other symptoms present are headache of a dull character, which may lead to vertigo; loss of appetite; nausea and pressure after eating; pains in the back and loins.

Nervous symptoms are frequently present, such as palpitation of the heart (Kisch⁶), indefinite pains, abnormal sensations of heat and cold, flushes of heat, and sleeplessness. It was at one time claimed that these symptoms are produced by the absorption of toxic materials from the intestine; but Bouchard⁷

has shown that fluid feces, being more easily absorbable, are more likely to produce toxic symptoms than hard fecal masses. Katz¹ has recently attempted to prove that auto-intoxication never exists, but that the symptoms occasioned are due purely to reflex nervous changes.

On examination the abdomen is found distended with gas, so that a marked tympanitic sound is elicited on percussion. If the abdominal walls are thin, the configuration of the distended colon may be made out with ease. Usually the abdomen is equally distended, but in cases of partial atony of the intestine the distention is asymmetrical. Large fecal masses can frequently be felt in the region of the sigmoid flexure and descending colon, while the abdomen is sensitive to pressure. The examination of the feces is important in these cases. The fecal masses are usually darker, drier, and harder than normal, and usually consist of large, adherent clumps or cylinders of large caliber.

At times valuable information concerning the condition of the colon can be gained by distending this part with gas. This is best accomplished by the introduction of air into the colon through a soft-rubber tube by means of the bulb of an ordinary spray-apparatus (Runeberg⁸). Under normal conditions the distended part will be found above or in the region of the umbilicus, representing the transverse colon, with the ascending and descending colon on either side. In dislocation of the colon downward, which is a frequent cause of atony of the intestine, the transverse colon is found below its ordinary position, reaching at times as far down as the symphysis pubis, while the ascending and descending colon approach nearer the median line. The colon may not only be dislocated, but it is frequently also considerably enlarged in its transverse diameter.

Of greater importance in the determination of atony of the intestine, as well as of the position of the colon, is a method that has recently been devised by Boas.⁹ After the bowels have been moved, warm water is introduced into the colon through a Hegar funnel. Under normal conditions a splashing-sound will not be produced before the bowels contain from 500 to 600 c.c. of water. This splashing-sound is induced by quick movements of the fingers upon the abdomen within an area bounded by a line a hand's-breadth above the umbilicus and another passing through the umbilicus. Under these

¹ Peyer: "Die Nervösen Affectionen des Darms," Wiener Klinik, 1893, p. 14.

² Henoch: Vorlesungen über Kinderkrankheiten, Berlin 1892, p. 518.

³ Fuetterer u. Middeldorp: Virchow's Archiv, Bd. cxi.

⁴ Henoch: Klinik der Unterleibskrankheiten, p. 479.

⁵ Chambers: Digestion and its Derangements. London, 1856, p. 496.

⁶ Kisch: Berliner klinische Wochenschrift, 1887.

⁷ Bouchard: Leçons sur les Auto-intoxications. Paris, 1887.

¹ Katz: "Zur Lehre der Autointoxicationen bei chronischen Magen- und Darmkrankheiten," Wiener med. Presse, 1893, No. 23.

² W. Runeberg: "Ueber künstliche Aufblähung des Magens und des Dickdarms," Deutsches Archiv f. klin. Med., Bd. xxxiv, S. 460.

³ Boas: Specielle Diagnostik und Therapie der Magen-krankheiten, Theil II. Leipzig, 1893, p. 89.

TABLE I.—NORMAL CASES.

Case.	Name.	Sex.	Age.	Quantity of fluid necessary to obtain splashing-sound.	Whether succussion-sound could be heard or not.	Position of transverse colon.		Greatest diameter of transverse colon.
						Upper border.	Lower border.	
1	J. S.	M.	25	600 c.c.	No	6 cm. above umbilicus	At umbilicus	6 cm.
2	P. T.	M.	31	550	No	6.5 " "	" "	6.5
3	S. P.	M.	39	700	No	7 " "	1 cm. above umbilicus	6
4	L. M.	M.	45	500	No	7.5 " "	0.5 " "	7
5	M. A.	M.	62	550	No	6 " "	At umbilicus	6
6	J. M.	M.	60	500	Very slight	7 " "	1.5 cm. above umbilicus	5.5
7	J. H.	M.	54	600	No	6.5 " "	At umbilicus	6.5
8	J. M.	M.	68	550	No	6.5 " "	0.5 cm. below umbilicus	7
9	T. M.	M.	65	600	No	6.5 " "	At umbilicus	6.5
10	F. J.	M.	42	750	No	7 " "	" "	7
11	L. C.	F.	35	650	No	6 " "	1 cm. below umbilicus	7
12	T. B.	M.	27	750	No	6 " "	0.5 cm. above umbilicus	5.5
13	M. R.	M.	44	600	No	7 " "	1 " "	6
14	E. B.	F.	26	550	Slight	7 " "	2 " "	5
15	D. C.	M.	38	600	No	6.5 " "	At umbilicus	6.5
16	F. G.	M.	62	700	No	7 " "	" "	7
17	N. C.	M.	70	650	No	7 " "	0.5 cm. above umbilicus	6.5
18	M. M.	F.	41	750	No	7 " "	0.5 " "	6.5
19	L. D.	F.	37	700	No	6.5 " "	At umbilicus	6.5
20	T. B.	M.	24	600	No	5 " "	" "	5
21	E. M.	M.	80	500	No	6 " "	" "	6
22	J. M.	M.	27	550	No	5 " "	1 cm. below umbilicus	6
23	P. C.	M.	25	500	Not noted	6 " "	At umbilicus	6
24	E. M.	M.	42	600	Not noted	6 " "	" "	6
25	H. D.	M.	41	500	No	5 " "	" "	5
26	W. S.	M.	53	450	Very slight	3.5 " "	" "	3.5
27	T. B.	M.	44	500	Very slight	5.5 " "	" "	5.5
28	F. H.	M.	60	500	No	6 " "	" "	6
29	W. D.	M.	21	450	No	5 " "	" "	5
30	P. F.	M.	35	500	No	5.5 " "	" "	5.5
31	J. T.	M.	47	600	No	5 " "	" "	5
32	J. G.	M.	38	750	No	5.5 " "	" "	5.5
33	M. M.	M.	35	500	Very slight	6 " "	1 cm. above umbilicus	5
34	G. H.	M.	57	800	No	7 " "	0.5 cm. below umbilicus	6.5
35	F. H.	M.	21	600	Not noted	7 " "	At umbilicus	7
36	W. N.	M.	50	700	Very slight	7 " "	1 cm. below umbilicus	6
37	W. M.	M.	59	650	No	7.5 " "	1 cm. above umbilicus	6.5
38	G. S.	M.	67	800	Not noted	6.5 " "	0.5 " "	5
39	T. T.	M.	19	500	Very slight	5.5 " "	At umbilicus	5.5
40	F. K.	M.	45	550	No	5 " "	" "	5

TABLE II.—CASES OF ATONY.

Case.	Name.	Sex.	Age.	Quantity of fluid necessary to obtain splashing-sound.	Whether succussion-sound could be heard or not.	Position of transverse colon.		Greatest diameter of transverse colon.
						Upper border.	Lower border.	
1	H. C.	M.	24	200 c.c.	Marked	At umbilicus	6 cm. below umbilicus	6 cm.
2	W. S.	M.	31	150	Marked	1 cm. above umbilicus	6 " "	7
3	J. T.	M.	68	200	Slight	At umbilicus	5.5 " "	5.5
4	J. L.	M.	47	100	Marked	" "	7.5 " "	7.5
5	F. R.	M.	27	100	Marked	1 cm. above umbilicus	7 " "	8
6	T. L.	F.	28	250	Slight	2 " "	3.5 " "	5.5
7	J. O.	M.	36	300	Slight	3 " "	4 " "	7
8	T. K.	F.	54	400	Slight	5 " "	3 " "	8
9	H. R.	M.	50	150	Marked	At umbilicus	6.5 " "	6.5
10	M. F.	M.	69	350	Marked	4 cm. above umbilicus	4.5 " "	8
11	G. S.	M.	37	100	Marked	5.5 " "	3 " "	8.5
12	F. A.	F.	71	250	Marked	At umbilicus	8 " "	8
13	M. D.	F.	43	150	Marked	5 cm. above umbilicus	3 " "	6.5
14	K. J.	M.	35	300	Marked	5.5 " "	2 " "	7.5
15	G. S.	M.	37	250	Marked	4 " "	4 " "	8
16	G. H.	M.	22	450	Slight	3 " "	4 " "	7
17	M. G.	M.	29	150	Marked	3 cm. below umbilicus	10.5 " "	7.5
18	W. K.	M.	19	100	Marked	4 " "	10 " "	6
19	T. J.	M.	32	150	Marked	2.5 cm. above umbilicus	5 " "	7.5
20	F. M.	M.	68	100	Marked	2 cm. below umbilicus	11 " "	9.5

conditions the colon can also be mapped out by palpation and percussion. A succussion-sound produced by quick movements of the patient himself can only be made out with difficulty or not at all.

Under pathologic conditions the succussion-sound and the splashing-sound can be generated with but small quantities of water (200-300 c.c.), and may reach much lower, at times to the symphysis pubis (*e. g.*, in dislocation of the colon). This method not only shows the position of the large intestine, but also indicates an atonic condition of the colon. As Boas states, this method presupposes that no other abdominal organ, and especially the stomach, can give rise to the splashing-sound. In cases in which the stomach is the source of the sound, as in atony, either the viscera must be emptied by means of a stomach-tube, or the examination must be made in the morning, when the stomach is in a fasting condition. Inasmuch as Boas' statements concerning this method have not received corroboration, I have tested it, and the following embodies the results of my investigation.

Forty perfectly normal persons were examined. In all cases the position of the colon, as thus determined, was verified by insufflation of the bowel with air. The results obtained agree in all respects with the observations of Boas. Under normal conditions from 500 c.c. to 800 c.c. of fluid are needed to obtain the splashing-sound, while a very slight succussion-sound or none at all can be obtained. The lower border of the transverse colon under normal conditions lies at the level of or slightly above the umbilicus, and the upper border from 4 to 7 cm. above this point, the diameter of the transverse colon being from 5 to 7 cm.

In twenty cases of atony of the colon, with marked constipation, the bowels were examined in a similar manner. The results were very striking. In no case was more than 450 c.c. of fluid required to produce the splashing-sound. The succussion-sound was obtained in all cases, and was usually very marked. The lower border of the transverse colon was found below the umbilicus in all cases, at times (in cases of marked enteroptosis) ten or eleven centimeters below, while the upper border was frequently below the normal level. The diameter of the transverse colon was usually between six and nine centimeters. The upper parts of the ascending and descending colon approached the umbilicus in proportion to the degree of enteroptosis. We have thus a simple method of detecting atony, as well as variations in position of the large intestine.

The whole colon is not always equally atonic. We frequently find atony of only the descending colon and of the rectum. This also results in fecal accumulations and marked constipation.

The symptoms of atony of the colon are well illustrated by the following case:

CASE XIV, Table II.—K. J., a servant, thirty-five years of age, had complained of marked constipation for the past twenty years. With this exception he has always been well. During the last three years the constipation has been so marked that frequently five or six days pass without a movement of the bowels. Cathartics of many kinds have been constantly employed, and even with these there is but a scant movement. There is a feeling of heaviness and distention of the abdomen. Flatulence and frequent pains from the presence of gas are complained of; at times the pains become colicky. Added to the constipation there is headache, which is usually relieved when the bowels have been opened. The appetite is good. There is frequent palpitation of the heart and general nervousness.

The patient is a well-built man, with a good pulse, and normal heart and lungs. The liver is normal in size; the abdomen is not tender to pressure; the kidneys are not palpable. The abdomen is markedly distended and tympanitic. The functions of the stomach are normal. One hour after an Ewald test-breakfast, small quantities of well-digested gastric contents are obtained, with an acidity of 64; the free hydrochloric acid equals 0.187 per cent. No lactic acid is present. The salol-test shows the motor function of the stomach to be normal. After injecting 300 c.c. of water into the bowel, a marked splashing sound is produced in the region of the ascending, transverse, and descending colon, by gentle shocks with the fingers upon the abdomen. The upper border of the transverse colon is 5.5 cm. above the umbilicus in the median line, the lower border 2 cm. below; the transverse diameter is 7.5 cm. The succussion-sound produced by movements of the patient himself is very marked. The position of the colon as determined by this method is verified by the inflation with air. The stools are larger and darker than normal, but are well formed.

Among the most frequent complications of atony of the intestine may be mentioned enteroptosis (dislocation of the bowel). As is shown in Table II, most of the cases of atony are complicated by this disorder. It is probable that the atony is secondary to the enteroptosis. Another frequent complication is atony of the stomach. It is probable that more than half the cases of atony of the intestine are associated with gastric atony. Of the twenty cases contained in Table II, fourteen were thus complicated.

Case IX well illustrates this association of enteroptosis, gastroparesis, and atony of the stomach as a complication of atony of the intestine.

H. R., fifty years old, a laborer, had malaria and typhoid fever before his twenty-fifth year, but thereafter was in good health until ten years ago, when he began to complain of gastric and intestinal disturbances. He has had loss of appetite, nausea, a sense of pressure after eating, especially

after the ingestion of fluids, and marked constipation. The disorder has recently progressed in severity, and the constipation has markedly increased, notwithstanding the constant use of cathartics.

The patient is a poorly-nourished man, with pale mucous membranes; his pulse is weak, his tongue coated; the heart and lungs are normal, the liver and spleen not enlarged. The abdomen is tender at several points on the linea alba, especially in the region of the umbilicus. After swallowing but 150 c.c. of water a splashing sound can be produced in the region of the stomach, the greater curvature being 4.5 cm. below the umbilicus, the upper curvature 8 cm. above the umbilicus. On inflating the stomach with air, the same boundaries are determined. One hour after an Ewald test-breakfast large quantities of gastric contents are obtained, with an acidity of 62; HCl equals 0.1279 per cent.; no lactic acid is found. While the stomach is quite empty 150 c.c. of water are gradually allowed to run into the bowels; a marked splashing-sound can be elicited in the region of the ascending, transverse, and descending colon, while a marked succussion-sound is also to be heard on quick movements of the patient himself. The upper border of the transverse colon is at the level of the umbilicus in the median line, while the lower border is 6.5 cm. below the umbilicus, the diameter of the colon in the median line being 6.5 cm. The same result was obtained when the colon was inflated with air. The stools are hard and black, the urine normal, containing neither sugar nor albumin.

Another complication found associated with atony of the colon, though less frequently observed, is the condition of membranous enteritis.

Boas¹ has reported such a case, and I have had a similar case under observation for some time.

CASE XVII, Table II.—M. G., a mechanic, twenty-nine years old, has complained of marked constipation for many years, and has for the past ten years been required to take purgatives to move his bowels. The stools are always hard and contain mucus, and very frequently during the past year long membranous masses have been cast off, when severe colicky pains are experienced. The patient also complains of loss of appetite, gaseous distention of the abdomen, and great nervousness. The man is rather well built, with normal heart and lungs. The liver and spleen are not enlarged. The right kidney is dislocated to the second degree. Points of tenderness are irregularly noted over the abdomen. By the usual method the stomach and intestines are found dislocated downward and atonic. With but 150 c.c. of water in the bowels marked splashing-sounds and succussion-sounds are produced. The upper border of the transverse colon in the median line is found 3 cm. below the umbilicus, and the lower border 10.5 cm. below, the diameter of the colon in the median line being 7.5 cm. This position of the colon was afterward verified by the

inflation of the intestine with air. In the washing large membranous masses were obtained.

Boas believes that in cases like this the membranous enteritis is caused by the abnormal bends and flexures of the large intestine.

The vertigo dyspeptica of Trousseau,¹ which was believed to be due to chronic gastritis, depends in most cases upon atony of the stomach and intestines. I reported such a case in my paper on "Atony of the Stomach."² Another case has come under my observation originating in intestinal atony.

CASE IV, Table II.—J. L., a male, forty-seven years old, has been suffering from constipation for years, which during the past year has become more severe. The bowels are moved at intervals of four or five days after the use of purgatives. There is constant headache, which has recently become very severe and frequently passes into vertigo. This at times becomes very intense when the constipation has lasted several days, so that the patient is sometimes unable to stand. The vertigo is at once relieved when the bowels are thoroughly evacuated. The appetite is usually good, but when the constipation is very marked the former suffers correspondingly. The patient is a well-nourished individual, with a strong, full pulse. The tongue is coated, the heart and lungs are normal, the liver and spleen not enlarged. The right kidney is dislocated to the second degree. Even after the ingestion of large quantities of fluid (500 c.c.) no splashing sound can be elicited over the region of the stomach. One hour after an Ewald test-breakfast but 35 c.c. of gastric contents are obtained, with an acidity of 66, the HCl equalling 0.184. Seven hours after a Leube test-meal the stomach is found empty. On inflating the stomach with air, it is found dislocated slightly downward, the lesser curvature being 5 cm. below the ensiform cartilage in the median line, the greater curvature 2 cm. below the umbilicus. While the stomach is empty 100 c.c. of warm water are thrown into the bowels, and marked splashing-sounds and succussion-sounds are produced. The upper border of the colon in the median line is at the umbilicus, the lower border 7.5 cm. below, the greatest diameter of the transverse colon being 7.5 cm. The urine is clear, and contains neither sugar, albumin, nor casts.

Intestinal catarrh and ileus paralyticus may also be mentioned as complications of intestinal atony. Ileus paralyticus may arise when long-continued atony has passed over into paralysis of the bowels. Under these circumstances the advance of feces is arrested and the symptoms of intestinal obstruction are induced.

Large fecal tumors are often formed as a result of atonic conditions of the bowels. These may

¹ Trousseau: "Vertigo Dyspeptica," *Gaz. des Hôpitaux*, 1862.

² Loc. cit., p. 12.

become so large as to simulate tumors of other organs. According to Griessinger¹ forms of mental derangement may result from the chronic constipation found in atonic conditions of the bowels, which may even lead to grave forms of hypochondria.

Atony of the intestine must be differentiated from other disorder of the bowels leading to chronic constipation. Among these may be mentioned entero-spasm (that is, a spastic condition of the colon), chronic colitis, and dilatation of the colon.

From entero-spasm atony is diagnosticated by the peculiar character of the stools. In the former the stools are usually pencil-shaped in form. In some, small amounts only are passed; in others the stools are abundant, but always of small caliber. In these cases the splashing sounds and succession-sounds cannot be produced by the method of Boas with small quantities of fluid.

From chronic colitis, atony of the intestine is also distinguished by the condition of the stools. In chronic colitis they are found constantly and intimately intermingled with or surrounded by layers of mucus, which at times may be so small in quantity that only a microscopic examination will reveal the true condition. With small quantities of fluid, according to the method of Boas, neither splashing-sounds nor succession-sounds can be produced. At times the two conditions, atony and chronic colitis, may coexist.

From dilatation of the colon, atony may usually be diagnosticated by a careful rectal examination. In most cases of dilated colon, some rectal obstruction will be found which will be recognized as the cause of the dilatation. That atonic dilatation of the colon does occur is, however, well known. A case of this kind has been recently reported by Walker and Griffiths² in which an enormous congenital dilatation was found in a boy, giving rise to great abdominal distention, tympanites, etc.

The treatment of intestinal atony depends upon its cause. If the condition is secondary, the treatment must be directed to the primary disorder.

Chronic constipation is the symptom that occasions most annoyance, and special attention must be directed to it. In all uncomplicated cases of atony of the colon the condition can be successfully relieved by simple measures. The hygienic and dietetic treatment is highly important. Inasmuch as sedentary habits predispose to this disorder, exercise is of some value in many cases. This should consist in walking, as well as in gymnastics

in which movements of the trunk play a prominent part.

Such foods are ordered as stimulate intestinal peristalsis. In this class are included substances that furnish a large quantity of undigested residue, such as fruits, vegetables, salads, Graham and rye breads. When there is no special contra-indication (such as gastric atony), large quantities of cold water taken before breakfast may be serviceable.

There are certain natural mineral waters which are sometimes of great value in the treatment of intestinal atony unaccompanied by atony of the stomach; the Glauber salt waters belong to this class. The waters of Marienbad are considered of great value for this purpose, especially in the obese; but the saline waters, Kissingen Rokoczy, are sometimes preferable. However, as many cases of intestinal atony are accompanied by atony of the stomach, the use of large quantities of water in these cases should be very restricted.

Persons suffering with intestinal atony should avoid the use of food that tends to constipate. In this class may be especially mentioned red wines, tea, and rice.

The systematic employment of abdominal massage is of great value. There are but few uncomplicated cases of intestinal atony in which the constipation does not yield to this form of treatment. In very persistent cases the manipulation must be practised daily, or on alternate days at least, for from eight to twelve weeks. To be effectual the movements must be deep.

Abdominal massage is much assisted by electricity; by the external application of moderately strong faradic currents good effects are usually obtained; or the faradic current may at times be applied internally, one electrode being placed in the rectum, the other on the abdomen. When the galvanic current is used the rectum is filled with water before the negative pole is introduced, the positive pole being placed upon the abdomen.

In cases in which massage and electricity cannot be employed excellent results are frequently obtained by injections of large quantities of oil, as recommended by Fleiner.¹ When the conditions insisted on by Fleiner are fulfilled the injections rarely fail. In a large number of cases in which I have employed these injections for the treatment of this form of chronic constipation they rarely proved unsuccessful. The regulations to be fulfilled are: 1. Only the very purest oil should be employed; olive-oil is the best. 2. Large quantities of the oil (from ten to fifteen ounces), heated to the temperature of the body, must be injected while the patient

¹ Griessinger: *Pathologie und Therapie d. psych. Krankheiten*, 3te Auflage, S. 221, 236 und 301.

² Walker and Griffiths: "Congenital Dilatation and Hypertrophy of the Colon fatal at the age of Eleven Years," *British Medical Journal*, July 29, 1893, page 230.

¹ Fleiner: "Ueber die Behandlung der Constipation und einige Dickdarmaffectionen mit grossen Oeklystieren," *Berliner klin. Wochenschrift*, January 16 and 23, 1893, Nos. 3 and 4.

is resting on the back with the pelvis raised. 3. The injections must be given carefully and slowly, so that no air enters the colon. When air is introduced severe colicky pains are frequently produced and the oil is immediately ejected. 4. The oil must be retained in the bowels for several hours; for this reason it is best for the patient to remain in the reclining position for several hours after the injection has been given.

When the injections of oil and the other methods just mentioned cannot be employed, injections of other fluids, such as warm water, cold water, glycerin, may prove serviceable. The introduction of glycerin suppositories into the rectum or the application of powdered boric acid to the mucous membrane of the rectum sometimes gives relief.

The employment of cathartics is in most cases to be deprecated. Inasmuch as patients become quickly habituated to remedies of this kind and their effect gradually wears away, larger and larger doses become necessary. When cathartics must be given the simplest are the best, and the various preparations of cascara sagrada seem to me to head this list. Pills of strychnine sulphate or the extract of nux vomica with belladonna are to be highly recommended to strengthen the relaxed condition of the bowels.

THE MILD CHARACTER AND THE DIMINISHED PREVALENCE OF SYPHILIS, AND THE INFREQUENCY OF VISCERAL SYPHILIS.¹

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ASSISTANT PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA; VISITING PHYSICIAN TO THE PHILADELPHIA HOSPITAL AND TO THE PRESBYTERIAN HOSPITAL, ETC.

I AM fully aware of the want of precision of the statements in this paper that should attend all scientific communications. For reasons that will be briefly considered later, such precision could not be obtained. It is unfortunate that we must deal in generalities, but the tide of thought may be turned in the direction indicated by these lines, and precision sooner or later be attained. This paper is presented with the object of eliciting discussion, so that, if possible, we can carry with us, if desirable, more definite notions of the prevalence of the disease and of the virulence of its manifestations.

The frequency in a community of a disease of the character we are considering can only be determined positively by compulsory notification. In the absence of such notification, we must resort to the statistics of the hospitals and to the records of physicians in private practice. The former do not tell the story correctly, because too many indi-

viduals are engaged in the make-up of the statistics. That uncertain quality, the "personal equation," is one of the many disturbing factors that make such data unreliable. Moreover, the victim of a disease like syphilis, which presents so many "ups and downs," may be treated at different times in the same institution during the same year, or at various institutions during that period.

The records of physicians in private practice would likewise be misleading. The tendency of syphilitic patients to see more than one physician, the choice depending upon the organ or structure at the time the seat of the disease, is one factor. Again, the class of practice that engages the attention of the individual physician would modify his statistics. The specialist on venereal diseases sometimes shudders at their apparent prevalence in the community, while the general practitioner observes but few cases in a corresponding period. Then, too, a man at fifty must not decide upon the frequency of a disease because he sees more than he did at twenty-five.

In short, there is no definite quantity upon which to base our calculations. This difficulty may in part be overcome by taking a definite class of men who are under the observation of a corps of students guided by the same definite purpose, both classes remaining as more or less fixed quantities. The statistics of the Army and Navy are therefore reliable up to a certain point. They are not, however, an index of the ravages in a community.

Another factor that does not fluctuate may be found in the records of the hospitals and dispensaries that treat venereal diseases alone. If one only of each existed in a city, a fair idea of the prevalence of the disease could be obtained. Usually this is impossible; especially is this so with dispensaries, for the patient wanders from one to another at his own option as fancy or convenience dictates. Many other factors also, as the movement of population, cause a variance in the attendance of patients upon a particular dispensary.

The nearest approach to the ideal definite quantity is to be found in a community that has but one hospital for the treatment of syphilis. Even here fallacies enter, and we can only judge of the frequency of the disease by inference, for the class attendant upon the hospital constitutes only a portion of the total number that may be infected.

Obviously, therefore, we can only come to that which approaches a conclusion by the expression of individual impressions. Scientific definiteness of statement, it is to be deplored, cannot be obtained. If such impressions tally with the statistics of a hospital situated under the circumstances indicated, they are all the more trustworthy.

Notwithstanding the increased scope of view,

¹ Read before the Association of American Physicians, at Washington, D. C., May 31, 1894.

and the occurrences of fallacies, I am firmly imbued with the impression that there is less syphilis in Philadelphia than there was ten or fifteen years ago. It is certain that the disease does not come under observation as frequently, either in private or hospital practice, as in former years. Does this tally with hospital-statistics that have some impress of definiteness?

In Philadelphia the indoor treatment of syphilis with lesions that render the disease communicable is limited to the Philadelphia Hospital (Blockley). To the wards of this hospital are admitted those of the poorer classes that are victims of the disease. It follows that any statement concerning the prevalence of syphilis obviously applies only to this prevalence among the poorer classes. The development of the disease is, however, more favored by the conditions that surround these classes. Any fluctuation in the prevalence of the disease among them is nevertheless a tolerably fair index of its frequency in a community.

The percentage of the cases of syphilis treated in the Philadelphia Hospital is indicated by the following table:

*Per Cent. Syphilis in Hospital for Periods of Five Years—
1864 to 1893 Inclusive.*

1864 to 1868	= 6.68 per cent.	1879 to 1883	= 4.26 per cent.
1869 to 1873	= 4.56 "	1884 to 1888	= 3.76 "
1874 to 1878	= 3.36 "	1889 to 1893	= 3.05 "

It is thus seen that in a period of twenty-nine years the reduction in the percentage of cases of syphilis is more than one-half, and this in face of the fact that the population of the community from which the cases are drawn has increased fully 35 per cent. in the three decades, and that, moreover, this reduction in percentage would be still greater if the other wards of the hospital increased in a ratio corresponding to the increase of population of the city of Philadelphia. In 1864, 5815 cases were treated in the hospital, whereas the number had only increased in 1892 to 7942 cases, a ratio of increase far below the increase of the sick poor of the population. This increase did not occur, because five new hospitals were built and all of the old hospitals were enlarged, furnishing shelter for the sick that otherwise would have sought the Philadelphia Hospital.

The cause of this diminished prevalence of syphilis can only be a matter of speculation until we have more satisfactory knowledge of the nature of the specific virus and of its biologic properties. It is fair to presume that habits of greater cleanliness among the public form one large causal factor. Then, too, the more modern methods of treatment, which lessen the duration of the contagious period of the disease, contribute to this decline. It is furthermore not stretching the imagination to any great extent to urge the probability either that the soil

is less favorable for the development of the disease, or that the activity of the virus is attenuated.

It must, of course, be remembered that the "war-period" had much to do with the prevalence of syphilis in the decade from 1864 to 1874.

The mild character of syphilis. I have had forty-eight cases of syphilis throughout its course, under observation as family practitioner for periods of ten years. Three are in women that have married and have borne children. In two of these the children presented symptoms of inherited syphilis, but have grown up healthy. Other children in perfect health were subsequently born to the parents. All of these cases I believe are cured. None ever presented grave lesions of syphilis. The only case of death from syphilis that I saw, barring aneurisms and other vascular lesions of this disease, was one in which meningitis developed in a young man in the practice of Professor Wood.

If we compare the present records of the venereal wards of the Philadelphia Hospital with those of twenty and thirty years ago, we find the most marked improvement. Formerly, grave ulcerous lesions were common; now they are the exception. The "syphilitic cachexia" was frequently seen; now it is extremely rare.

I had expected to show from a study of all cases of syphilis in the hospital a decline of the tertiary varieties of the disease. Such decline has occurred, and, in view of the facts previously mentioned regarding the increase of accommodations of other institutions for such patients, is not without significance. From 1864 to 1868, 3 per cent. of all cases in the hospital were recorded as tertiary, visceral, or nervous forms of syphilis. All forms of internal syphilis are included. The diminution was one only of moderate degree—from 1868 to 1873 to 2.25 per cent.; from 1874 to 1878, 1.95 per cent.; from 1879 to 1883, 2.2 per cent.; from 1884 to 1888, 2.65 per cent.; from 1888 to 1893, 2.45 per cent. The decline is only a fractional one, but even no decline in per cent. would mean a diminution in amount.

I believe there was less tertiary syphilis than the records indicate. In one year the records of the nervous wards showed sixty-nine cases of syphilitic hemiplegia; in another year the cases of this character were less than six. It looks as if the diagnosis was made in accordance with the bias of the observer. The small amount of tertiary and visceral syphilis seems to indicate a lessening of the virulence of syphilis. This is substantiated by the accounts of the disease given by writers of forty or sixty years ago, and by the statements of physicians whose experience bridges the epoch just mentioned. In the Presbyterian Hospital we have treated in the medical wards 5000 cases. Of that number thirty

cases were diagnosed as tertiary syphilis; eleven cerebral; two spinal; two hepatic; four laryngopharyngeal; a total of forty-nine cases. Certainly if the disease was common and severe, more cases would have resorted to this institution.

Syphilitic disease of the organs of the thorax and abdomen is included, with the exception of syphilis of the bloodvessels, endarteritis. Here, again, older writings are full; modern writings are the echoes apparently of the past. The experience in the Presbyterian Hospital is a case in point of their infrequency. In a series of three hundred and thirty autopsies which I have conducted, the visceral lesions of syphilis (other than vascular) occurred but once. In private practice I have had but two cases (elsewhere reported) of visceral syphilis outside of the nervous and vascular systems. Are we not justified in asking: If pulmonary and other forms of visceral syphilis are rare, is it not possible that the so-called syphilitic lesions of the arteries and nervous system are due to other causes?

The statistics that I could consult are unreliable, I regret to say, and any information they may possess is buried in such a manner in the notes of the autopsy as to be unavailable.

Granting the mild character of syphilis and the infrequency of visceral forms, are we warranted in considering the syphilitic process a factor in the pathology of vascular and nervous syphilis? I believe that visceral syphilis has been common in the past, or else was mistaken for the lesions of tuberculosis. I believe that it is at present infrequent, without being able to give definite data. Should there not be a similar decline in the frequency of vascular and secondarily (for there is usually a primary endarteritis) nervous syphilis?

RÉSUMÉ. In the Philadelphia Hospital, the only institution in Philadelphia in which early syphilis is treated, there has been a progressive diminution in the number of cases of syphilis, notwithstanding the increase in the population of the community, and despite the fact that the statistics were begun just after the war, at a time rife with such diseases. Syphilis is at present a mild disease. Tertiary manifestations are not common. Visceral syphilis is rare.

INOCULABILITY OF ECTHYMA.¹

BY J. H. McCORMICK, M.D.,
OF WASHINGTON, D. C.

WHEN one sees an inflammation of any kind in this iconoclastic age of ours he asks if it is infectious or contagious, and if it is due to a specific organism. This has been the case with almost every affection of the skin, with the exception of ecthyma, and this

seems, in a great measure, to have escaped this inquiry. As most authors describe the disease as non-specific and non-infectious, and as German authorities, under the lead of Hebra and Kaposi, deny the existence of the disease as an affection, *sui generis*, believing it to be eczematous in character, and thus considering it a symptom and not a disease, and as the clinical picture of a typical ecthymic eruption is seemingly at variance with both of these claims, it was determined to seek the solution of the problem at the first opportunity by a series of experiments in order to ascertain whether the former or the latter proposition was true.

In the early spring of 1892 the following case appeared at the Johns Hopkins Hospital, exhibiting such a typical eruption and such an interesting history that it seemed to be the case above all others for the investigations in question.

G. E., thirty-five years old, by occupation a book-keeper, of slight build and medium height, and of a decidedly anemic appearance, was, several weeks before consulting us, called upon to care for his employer's horse, in the absence of the regular hostler, a business with which he was unfamiliar. He noticed several "sores" upon the animal's leg, and treated them with carbolic lotions. About a week afterward he noticed five or six pustules upon his own right leg. These pustules, situated each upon a large dark-red areola, broke down, and at the end of two or three days formed dark-red or brown crusts. The itching was quite severe, and at the time of his admission to the hospital there were seven or eight large, elevated, hard, dark-brown or brownish-black incrustations, about the size of the finger-nail, situated upon and deeply imbedded in a deep-red base, which completely surrounded them; upon removal of the crusts, a thin, yellowish, sanguous pus exuded; the pain and itching were considerable; the whole presented the appearance of a typical ecthymic eruption, showing that an active inflammatory process had taken place.

The patient was inoculated in three different sites upon the posterior surface of the left leg, and was told to return in three days; at the end of that time the places where the inoculations were made showed a typical eruption, with the exception that the pustules were not quite so large and indurated as those from which they were taken, and it is interesting to note that in no other spots did the eruption appear except where the inoculations were made.

At the second visit, two patients, one suffering from lupus the other from seborrhœa sicca, consented to be inoculated, and for sake of convenience were designated A and B.

A was inoculated upon the right leg from the right leg of the original patient, and B upon the left leg from the left leg or induced case; at the end of three days the eruption appeared in every place thus treated.

The virus was transferred from the left leg of B to the left of A, and from the right of A to the

¹ Read before the Medical Society of the District of Columbia, April 18, 1894.

corresponding limb of B, and when the resulting lesions made their appearance, as they promptly did at the end of three days, they were transferred to either arm of the original patient, and in every case the eruption appeared more or less marked in every site thus treated.

By reason of the unavoidable absence of Dr. Gilchrist, who so kindly assisted me in the first experiments, we were unable to make a bacteriologic examination to determine whether there were specific ecthymic bacilli or some other present.

Dr. Hyde, pursuing the same course as Kaposi, claims that ecthyma is not a distinct disease, but is due to some common septic bacteria, and that the eruption is but one of the many manifestations of eczema; yet he thinks that the term ecthyma should be retained, and should be used for convenience, because the lesion is quite characteristic, and thus the disease is described meagerly, or not at all, by German authorities; while, on the other hand, just as competent observers have recorded 726 cases out of a total of 123,746, noted in the *American Statistics of Dermatology*. Stelwagon records 23 cases out of 4200 cases of skin-disease seen by him at the Philadelphia Hospital for Skin Diseases, covering a period of ten years, from February, 1880, to November, 1890. It is probable that if the affection were a mere eczema it would occur more frequently than the statistics show. As to its powers of infection, James S. Rankin, of Segowlie, Bengal, describes ten cases in which the disease was transmitted from one to another. Three children played with his own child, aged six years, who became infected with the same trouble from which they suffered, and which he stated was, or closely resembled, ecthyma. The child in turn infected his mother. Upon investigation it was learned that these children had just returned from the indigo-district, where they had come in contact with four or five others who were afflicted in the same manner, and the eruption was attributed to the irritation caused by the liberation of ammonia in the indigo-factories where the latter cases worked.

As to the inoculability of ecthyma, Vidal, in 1846, demonstrated its auto-inoculability by transferring the virus from the leg to the forearm.

It is not the province of this paper to discuss the question of treatment, but in passing it may be interesting to state that some trial was made with a combination of antipyrin and sodium bicarbonate, based upon its reputed resemblance to quinin, and the property of the latter to allay or arrest the process of pustulation. While the conclusion is not warranted that it always is efficient, yet the influence of the combination was sufficiently marked to justify further investigation.

From the facts as stated the following recapitulation may be made as a basis for future investigation:

First. *a.* By direct experimentation.

(1.) Vidal, in 1846, demonstrated the auto-inoculability of ecthyma.

(2.) The author, in 1892, demonstrated the auto-inoculability and the inter-inoculability of the disease.

b. By presumptive evidence James S. Rankin, in 1883, demonstrated its infectiousness.

Second. As to the existence of ecthyma as a disease, *per se*, *a.* Hebra, Kaposi, Hyde, et al., claim it to be the manifestation of an eczema or dermatitis, due to a simple septic bacillus.

b. Most authors claim it to be non-specific, but a distinct disease.

Third. As to its power of infection.

a. Positive: Rankin demonstrated its infectiousness.

b. Positive: Vidal and the author demonstrated its infectiousness by artificial means.

c. Negative: Most authors claim it to be non-infectious, based upon their failure to observe it as such.

Fourth. As to the presence of a specific ecthymic bacillus.

a. Most or all authors claim that there is none.

b. In the foregoing observations we failed, by accident, to note this particular fact.

Fifth. The following points, for one or another reason, were not noted:

a. The presence or absence of a specific ecthymic bacillus.

b. The presence or absence of bacteria of any kind in the patient.

c. The presence or absence of bacteria of any kind in the eruption upon the horse.

Sixth. The results, while not conclusive, because based upon too few experiments, seem to warrant the following conclusions:

1. That ecthyma is auto-inoculable.

2. That ecthyma is inter-inoculable.

3. That ecthyma is infectious.

a. From animals to man.

b. From man to man.

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CLINICAL MEMORANDA.

THREE AMPUTATIONS OF THE THIGH—TWO IN THE UPPER THIRD, ONE AT THE MIDDLE.

BY JOHN W. ROSS, M.D.,
SURGEON, U. S. A.

CASE I.—Lewis Hart, a negro, seventeen years old, of Yellow River, Santa Rosa County, Fla., was brought to me March 24, 1888, with the right knee and ankle disorganized by suppurative tuberculous disease of seven years' standing. All the structures concerned in these joints were involved; the knee was dislocated outward; pus was escaping by seven or eight fistulae in the thigh

and leg; the lower end of the femur was softened and breaking down. There was great emaciation, profound anemia, extreme debility, difficulty in deglutition, loud anemic cardiac murmurs, but no organic disease of vital organs.

I decided to amputate as soon as the patient could be built up sufficiently to stand the operation.

On March 28th, the patient, showing no signs of improvement, but rather the reverse, I concluded to operate at once. Captain M. C. Wyeth, U. S. A., Post-Surgeon at Fort Barrancas, willingly consented to help me, although he thought that the patient would die from the anesthetic, as his heart was acting badly. He administered the ether, preceding it by a small drink of whiskey, and the operation was quickly done, Apothecaries Purden and Waggener, U. S. N., and Nurse John Kelly assisting us. On account of the unhealthy state of the soft parts, an irregular flap-operation, approaching the circular, was done, two fistulous openings being unavoidably included in the longer anterior flap. The femur at the point of section, at about its center, was hardly more than a circular shell of bone, with a large medullary cavity.

The patient emerged from the anesthesia with very little life in him, but was kept alive for a few days by frequent small quantities of liquid food, digitalis, and stimulants. After that he began to gain strength, and continued to do so, though very slowly. The vitality of the tissues was so low that it was impossible to get even an attempt at primary union of the flaps, and the stump had to be treated as an open wound. Whenever it was closed pain would come on and the temperature would rise. The flaps were kept as aseptic and in as good a position as possible, and at the end of about three months the patient went home with a good stump and in fair general health.

After reaching home he grew fat and hearty, and being unusually intelligent acquired a fair education, writing me occasionally very creditable letters.

Subsequently the same trouble that had destroyed the knee and ankle unfortunately reappeared in some of the lower costo-vertebral articulations, and the patient returned to me with an abscess to the right of the spine in the lower dorsal region. This was opened and cleaned out, and for about two years since there has been no advance of the trouble and the general health has been good.

CASE II.—Captain W. C. Gorgas, U. S. Army, Post-Surgeon at Fort Barrancas, who took a prominent part in the operation and after-treatment, has kindly given me a copy of his record of the following case:

"Thor Christiansen, a Swedish sailor, eighteen years old, in February, 1890, fell, in Pensacola Harbor, from the mast of his ship to the deck, striking on the head of a belaying-pin, driving it through the upper third of his left thigh and breaking the femur at this point.

"He was taken to the Marine Hospital at Pensacola, and attempts were made to save the limb, but suppuration set in and the patient went from bad to worse.

"I first saw the patient July 13, 1890, in consultation with Dr. J. W. Ross, U. S. N., and Dr. Anderson. The lower fragment at this time protruded through the skin, and the upper one was about to come through, both communicating with a pus-cavity that held about a pint.

The man suffered great pain, any movement causing him to cry out. The emaciation and debility were greater than I have ever seen in a person who recovered. Indeed, I thought it probable that he would not survive the night. I estimated at the time that he had about three square feet of bedsores, the largest, that over the sacrum, covering fully a square foot, and laying the bone bare. Every point of pressure was bare, elbows, scapulae, ribs, iliac bones, etc., and the pressing bone was bare in many of these places. There was no albumin in the urine, and all other organs were healthy. I was inclined to think that the patient would die in the course of the next twenty-four hours; I was quite sure that he would not survive operation. This was the opinion of all who had seen him.

"Dr. Ross, having had a somewhat similar case before, urged immediate amputation, in which I supported him with many misgivings. Dr. Ross amputated at the point of fracture, making a circular skin-flap, and slitting up the flap to get out the dead bone. A short piece of femur was left *in situ*, the idea being to subject the man to as little shock as possible, and to disarticulate at the hip-joint a few days later, after he had somewhat recovered. Great care was given to asepsis during the operation. The patient suffered profoundly from shock for several hours, and it was only by steady care and stimulation that he survived. He began to gain from the day after the operation, and we kept deferring the second operation till we saw that it was not needed. He was moved to the military hospital at Fort Barrancas on the 21st.

"Improvement was rapid and steady, and by September 22d he was walking about on crutches. He left the hospital in December, with all of the bedsores healed and the stump in good condition.

"What so impressed me in this case was the fact that a patient so weak and debilitated could recover from any operation. In future I shall not hesitate to operate on a patient, with otherwise healthy organs, on account of debility, unless he is actually *in articulo mortis*. After this case it seems to me that it can never be too late to operate on such a patient."

Having been called in consultation by the surgeon of the hospital, I saw Christiansen first on July 10th, three days before the operation and about five months after the reception of the injury. He was a mere shadow and was expected to die at any hour. The lower end of the upper and the upper end of the lower fragment were widely separated, with several pieces of dead bone and a large pus-cavity intervening. The surgeon, after having tried many ingenious contrivances for keeping the bones in juxtaposition, had abandoned all hope of union, and was doing what he could to diminish suffering. As there was no other earthly hope, and as I had seen a very similar case saved by it, I advised immediate operation.

On July 12th the patient collapsed, and it was thought that the end had come. After he had reacted the surgeon telegraphed me to come up and amputate.

On the next morning, July 13th, Dr. Gorgas, Dr. Anderson, and I, assisted by our apothecaries and stewards, operated in the manner described.

Once during the operation and once immediately afterward life appeared about extinct, but with external

heat, stimulants hypodermically and internally, and his wonderful vital tenacity, the patient survived. Apothecary (now Dr.) Richard Waggener staid by him until the next day, keeping him warm, nourishing him, and stimulating him *per os* and hypodermically with whiskey, digitalis, and atropin. On the following morning Dr. Anderson told me that the patient would surely have died during the night but for Waggener's faithful and skilful care. As the attendants in the hospital were overworked with other patients, one of the navy or army attendants nursed Christiansen night and day for nearly a week, at the end of which time he had gained a little strength and was comparatively comfortable. On July 21st Dr. Gorgas, in great kindness, sent an ambulance and took the patient to the army hospital, where there was a full corps of attendants and few patients. There he was nursed like a child back to health, the great difficulties being to heal the bedsores and teach him how to walk, as the muscles had atrophied and apparently disappeared.

Finally, by December, being perfectly well and sound, he went back to his home in Wexio, Sweden.

Some months later he sent me a grateful letter, telling me that he was strong and robust, asking advice regarding an artificial leg, and sending his photograph, which showed him to be in perfect health.

In the following case the operation was not done by me. I am responsible for it, however, as but for my persistency it would not have been performed. It is reported here, because it conveys the same lesson, *nil desperandum*, as the two foregoing, and because of its striking resemblance to one of them. But for my experience with this case I should not have advocated or done the operation in Case II.

CASE III.—George William Ritchie, an ordinary seaman-apprentice on the U. S. Flagship *Hartford* about nineteen years old, on October 24, 1884, fell from aloft on the *Hartford* in the bay of Callao, Peru, striking the ratlines and landing on the grating of the Hotchkiss gun, sustaining a compound, comminuted fracture of the upper third of the left femur, a fragment of bone projecting through the external wound.

On October 28th he was transferred ashore to the Guadalupe Hospital, Callao, where he passed out of the hands of the U. S. Surgeons.

The *Hartford* sailed away not long afterward, and I being attached to the U. S. S. *Onward*, at Callao, was requested to look out for the boy. He seemed never to have recovered fully from the shock of the injury, and had gone along pretty rapidly from bad to worse. At the end of about three weeks he was in very much the same condition as was the boy Christiansen (whose case has been described) when first seen by me, except that he was less emaciated and the bedsores were not so bad. The wound was bathed in pus, and the broken ends of the upper and lower fragments movable and overlapping for several inches, with two or three pieces of broken bone hanging to them. There was high fever (apparently hectic), profound prostration, delirium, and intense suffering. A skilful diagnostician who examined him carefully, thought that pyemia had set in, involving especially the lungs.

As death was certain and imminent without it, I endeavored to get the visiting surgeon of the hospital,

Dr. Távara, to remove the limb. He declined on the ground that it would be entirely useless, that the boy would die whether he amputated or not, and that it would injure his private practice to have the patient die during or immediately after operating upon him.

At about this time the U. S. Steamship *Wachusett* came to Callao, with Surgeons W. H. Jones and W. R. DuBose, U. S. Navy, on board. These gentlemen went with me to see Ritchie, and agreed that death was inevitable without amputation. I also got Dr. Campion, a very able English surgeon of the Pacific Navigation Company, in charge of their hospital at Callao, to see Ritchie, and he shared the same opinion. I then brought about a meeting of these surgeons, Drs. Jones, DuBose, Campion, and Távara, for a careful consideration of the case. Dr. Campion thought that amputation could do no harm and would greatly diminish the patient's suffering. Dr. Jones had slight hope that it might save the patient's life, and remarked that anyhow we might just as well kill him as to let him die by inches. Dr. DuBose thought that the only shadow of a chance for the patient's life lay in amputation. Dr. Távara considered that amputation would shorten the patient's life, that he did not like to operate in such hopeless cases, and that it would injure his reputation as a surgeon for Ritchie to die during or as the result of the operation. I said that the patient was a red-headed Scotch lad, with lots of vitality, and that if we would rid him of that thigh, with its terrible pain and discharge, I believed he would get well. I proposed that if Dr. Távara would go ahead and cut the limb off we would all assist him in the operation and take the whole responsibility. The other surgeons supported me in this, and Dr. Távara yielded.

On November 9th, the day following our conference, I believe, we met at the Guadalupe Hospital, and assisted Dr. Távara in amputating in the upper third of the left thigh.

The very next day the patient was decidedly improved in every way, and from that time went straight along to recovery.

During the following year I met Ritchie in New York City, getting fitted with an artificial limb. He was in fine health, and seemed almost as active on his one leg and crutch as the average man is on two legs.

In these three cases, all of the kind that have entered into my experience during the past ten years, three lives were saved, but had only one been saved the amputations, with all their trouble, responsibility, etc., would have been amply justified. They are reported with the hope that the results may cause other surgeons to operate under similar circumstances when they would not otherwise do so. Obviously the lesson they convey is of much wider application than to amputations, and covers all cases in which without operation death is certain, and when with it the slightest chance for life is afforded. It is not an agreeable thing to have a patient die upon the table, or to feel that an operation has been the immediate cause of death, and that the surgeon's reputation may temporarily suffer thereby, but it is the surgeon's duty to put himself in the patient's place, and do unto him as he would wish to be done by. Human life is too sacred for any chance, however small, of saving it to be thrown away. In such cases, even when the patient

does not survive, he is almost certainly delivered from much suffering.

I remember seeing in Bellevue Hospital, New York, about twenty years ago, a woman who for some injury of the leg had been urged to submit to amputation above the knee. She refused operation until she saw that she was about to die, and then begged with tears to have it done. Then the surgeons would not amputate, believing that it was too late, and within a day or two the woman died. I have often thought since that had they operated promptly as soon as she gave her consent her life might possibly have been saved.

In the foregoing cases no unusual operative skill was employed, nothing more than any well-equipped surgeon of moderate experience might command.

A study of these three cases has strengthened an opinion long held by me, that the danger of shock in modern operative surgery is overestimated. May not much of the dread of it have come down to us from the pre-anesthesia days when there was so much suffering from pain and fear? May not much that we attribute nowadays to shock be due to loss of blood or to too energetic administration of anesthetics? I can testify from personal subjective experience that the shock of being knocked down by an anesthetic, as it is frequently administered, is very great indeed, extremely like that of a heavy blow on the top of the head.

Our plan here (the Government Reservation, near Pensacola, Fla.) is in the great majority of cases, both obstetric and surgical, to begin with chloroform given in small quantities very gradually until the patient sinks into an apparently natural sleep, and then the sensibility of the respiratory mucous membrane being obtunded, substituting the more irritating but less dangerous ether, to maintain the anesthesia with the latter. This method costs a little more time and trouble, but we are satisfied that it pays well. In our work here we have given chloroform and ether to several hundred patients without any approach to an accident from the anesthetic. As Dr. Gorgas expresses it, "We chloroform the patients in order to give them ether."

EXCISION OF THE GASSERIAN GANGLION.¹

By R. W. STEWART, M.D., M.R.C.S.,
SURGEON TO MERCY HOSPITAL, PITTSBURG, PA.

THE first operation for the removal of the Gasserian ganglion was performed by Rose, an English surgeon, in 1891, since which time it has been performed about forty times. As neither the number of cases that have been operated upon nor the duration of time that has elapsed is yet sufficient to thoroughly establish the value of the operation, any statistical material that can be added to that already published cannot but be of value.

The following case is interesting, as it illustrates, in addition to the operation named, the results of two others undertaken for the relief of tic douloureux:

Mrs. H. R., forty-eight years old, married, having four children living and healthy and three dead, came under observation May 27, 1892. She had had good health until about twelve years before, when she began

to suffer from neuralgia affecting the right superior maxillary nerve, the most sensitive point being the mucocutaneous border of the upper lip on the right side. The pain was paroxysmal, and was induced by the slightest irritation of the upper lip and buccal mucous membrane on the affected side. Eating and drinking were particularly prone to excite a paroxysm of pain. While the pain invariably started from the second branch of the fifth nerve, it frequently radiated along the other branches of the nerve. During the period of the twelve years referred to, the patient had tried all kinds of remedies without any relief. In April, 1890, Dr. A. M. Cook, of Newcastle, Pa., excised the superior maxillary nerve external to the infra-orbital foramen. This operation afforded relief from the pain for a period of eight months, at the end of which time it returned in a more violent degree than ever.

On May 31, 1892, I operated on the patient at the Mercy Hospital, removing the superior maxillary nerve as far back as the foramen rotundum, together with Meckel's ganglion. The operation was performed after the method of Carnochan, as follows: A triangular flap was raised, its base being upward, and the center corresponding to the infra-orbital foramen. The nerve, as it emerged from the foramen, was freed from the surrounding tissue, and a fixation-ligature was thrown around it. A stout gouge-chisel was next used to open the anterior wall of the antrum, into which an opening was made corresponding with the foramen, and large enough to permit of the introduction of the finger. The nerve was easily traced along the roof of the antrum, and was used as a guide to the posterior wall of the antrum, through which, in turn, an opening was made into the spheno-maxillary fossa. Through this opening an aneurism-needle was thrust, keeping close to the nerve until the anterior surface of the sphenoid arrested its progress. The needle was now rotated in a semi-circle, tearing the nerve apart at the foramen rotundum.

It was found necessary to break the floor of the orbit from within the antrum, in order to liberate the nerve from its bony channel. The nerve was then readily withdrawn, having attached to it the ganglion of Meckel. Hemorrhage during the operation was not troublesome, and was readily arrested by packing the wound with iodoform-gauze.

On June 2d the iodoform-packing was removed and the flap sutured in position. No constitutional disturbance or pain had been felt since the operation. On June 7th the patient was discharged from the hospital, the wound being entirely healed. There was entire absence of pain, but complete anesthesia of the parts supplied by the superior maxillary nerve and Meckel's ganglion. On January 28, 1893, the patient reported that there had been no return of the pain. The parts supplied by the second branch of the fifth nerve were only slightly sensitive.

Mrs. R. remained free from pain for about two years following the operation described. Then the pain gradually returned, and on March 21, 1894, she came to Pittsburgh to consult me. She was at this time in a truly pitiable condition. The neuralgia was not only as severe as before the previous operation, but it was not limited to one nerve, as formerly. The most sensitive point was, as before, on the upper lip, but in addition the

¹ Paper read before the Pittsburg Academy of Medicine, May 21, 1894.

slightest touch on the cutaneous surface above the eye-brow, in front of the ear, or over the horizontal ramus of the lower jaw, would bring on a paroxysm of pain pitiable to behold. On this account she was unable to wash that side of her face. Talking, eating, or drinking, even a gust of wind, was sufficient to throw her into an agony of pain. It was impossible at this time to examine the cutaneous sensibility of the affected side of the face. An effort to do so brought on such a paroxysm of pain that it was not repeated. It was learned from the patient, however, that the part previously rendered anesthetic by the removal of the superior maxillary nerve had partially regained its sensibility.

The futility of therapeutic resources, as previously demonstrated in this case, left nothing to be hoped for from medicinal treatment; nor did I feel justified in condemning her to a period of suffering in order to demonstrate again the correctness of this conclusion. The surgical aspect of the case was therefore the only one that received serious consideration.

As all three branches of the fifth nerve were now involved, it was obvious that any operation undertaken for the relief of this condition must be of such a nature as would destroy the conducting property of all three branches. It had been previously demonstrated in this case that removal of even a large part of the peripheral portion of a nerve did not permanently destroy its conducting property. After carefully weighing all the circumstances of the case I therefore decided to remove or destroy the Gasserian ganglion, in the hope that its destruction would cause degeneration of the nerve beyond the possibility of repair.

The patient was accordingly admitted to the Mercy Hospital, and on March 24th, with the assistance of my colleague, Dr. Buchanan, and the resident staff of the hospital, I performed the operation for removal of the Gasserian ganglion. Aside from the antiseptic details, the first step of the operation was to suture the margins of the right eyelids together, in order to avoid the danger of exposure of an insensitive eye. Experience has shown that this precaution is unnecessary, but I adopted it here because the right eye was the only good eye the patient had. Dr. Edsall, who examined her eyes, reported that there was almost complete blindness in the left eye from advanced optic atrophy, while the right eye also showed some evidence of beginning optic atrophy. It may be here added that the cause of this condition of the eyes was unknown, but it is probably due to a retro-bulbar neuritis.

The incision in the skin extended from a point directly posterior to the external angular process, backward to the posterior border of the lower jaw, downward to near its angle, and forward to the anterior border of the masseter muscle. The skin-flap thus outlined was dissected forward, care being taken to avoid the parotid gland and its duct, as well as the branches of the seventh nerve. The zygomatic arch was divided by passing a chain-saw round each extremity, through which holes had been previously drilled to facilitate wiring of the parts at the conclusion of the operation. The arch, with its attached masseter, was drawn downward, exposing the coronoid process of the lower jaw, which was also sawn through and displaced upward, with the attachment of the temporal muscle. The external pterygoid muscle was exposed by

this dissection, and was detached from its origin on the pterygoid process of the sphenoid.

In this dissection the internal maxillary artery was wounded, with a resulting troublesome hemorrhage. After the bleeding was controlled a search was made for the inferior maxillary nerve. This was somewhat tedious, as the field of vision at the bottom of the now deep hole was constantly obscured by a free oozing of blood. Finally, the lingual branch was discovered and a fixation-ligature thrown around it for the purpose of using the nerve as a guide to the foramen ovale, which could now be felt by tracing the nerve upward.

A small trephine was in readiness to enlarge the opening of the foramen ovale, but its great depth and the obliquity of the base of the skull to the axis of the wound precluded the use of the instrument. I therefore used, instead, a narrow chisel, but unfortunately in guiding the chisel along my finger the latter slipped toward the median line until it was arrested at the foramen lacerum medium, which I at this moment supposed was the foramen ovale, and as a result of this error I drove the chisel not into the bony wall forming the outer border of the foramen ovale, but into the cavernous sinus. The withdrawal of the chisel was followed by an alarming hemorrhage, which immediately filled the cavity of the wound. The blood was arterial in character, but welled out instead of pulsating. The wound was rapidly packed. After a few minutes the packing was removed, but the blood welled out as furiously as ever. The cavity of the wound was again packed, sponges dipped in hot water being used. This was repeated four or five times. Finally the bleeding diminished, and in about half an hour was entirely arrested.

The foramen ovale could now be clearly defined, and was enlarged with the chisel until an opening about half an inch in diameter was made. Through this opening a small stout hook used by dentists was thrust about an inch in the direction of the root of the nerve. The hook was now used to lacerate the tissues, the object being to destroy or scrape away the ganglion. On withdrawing the hook something appeared in the opening, which I seized with forceps and drew outward. With it came the fixation-ligature and the lingual nerve. To my surprise the body proved to be the Gasserian ganglion, almost intact, a small portion of the root being attached. A considerable portion of the inferior maxillary nerve was attached, and the origin of the first and second branches could be detected. The manipulation of the hook within the skull was attended by a free but not troublesome hemorrhage. A drainage-tube was introduced to the bottom of the wound, which was closed, after replacement of the displaced tissues, in the ordinary manner.

The operation occupied two hours. On the fourth day the dressings were removed. The eye was found to be intact. The parotid gland had been wounded in the operation, and the salivary discharge was profuse for several days, until a communication was established with the cavity of the mouth. About a week after the operation the wound became infected, but ultimately the recovery was excellent. Since the operation there has been absolute freedom from pain. There is loss of sensation over the entire area supplied by the fifth nerve, but this loss is not absolute, certain cutaneous areas

retaining a slight degree of sensibility. The nutrition of the eye does not seem to be affected. The conjunctiva is almost completely anesthetic, with the exception of the inner third, which seems to be hyperesthetic. The right side of the tongue has lost its sensibility to touch and taste. The muscles of mastication are paralyzed, and the opposing muscles draw the teeth of the lower jaw out of line with the upper.

The method of operating for the removal of the Gasserian ganglion just described is similar to that devised by Rose, the pioneer in this operation. Horsley operated on one case by opening the cranium and exposing the nerve as it emerges from the pons. The patient died from shock in a few hours. Hartley, of New York, improved on this operation by opening the cranium without incising the dura, raising the temporo-sphenoidal lobe, exposing the ganglion and removing it as it lies beneath the dura mater. This method seems to have the advantage over the method of Rose, in the precision with which the ganglion can, under favorable circumstances, be removed, and in the absence of such disagreeable, and sometimes unavoidable, accidents as wounding of the parotid gland or the seventh nerve.

According to the appended table of the operations so far published, which is copied from an excellent report of an operation for removal of the Gasserian ganglion, by Dr. W. W. Keen and Dr. J. K. Mitchell, published in the *Transactions of the Philadelphia County Medical Society*, 1894, the operation has been performed forty-one times, including the present case, with the following results:

	Cases.	Recovered.	Died.	Mortality, p. ct.
Rose's method,	20	18	2	10.0
Hartley's method,	19	17	2	10.5
Horsley's method,	1	0	1	100.0
Method unknown,	1	0	1	100.0

TABLE OF OPERATIONS FOR REMOVAL OF THE GASSERIAN GANGLION.

Author.	Reference.	Recovered.	Died.	Total
Rose ¹	British Medical Journal, 1892, i, 262 . . .	5	..	5
Rose ²	Lancet, 1892, ii, 953.	1	1	2
D'Antonai	British Medical Journal, 1893, i, 81	1	..	1
Park ¹	Trans. Amer. Surg. Assoc., 1893, vol. xi, 238	2	..	2
Andrews ¹	Journ. Amer. Med. Assoc., Feb. 18, 1893, 180	3	1	4
Krause ²	Annals of Surgery, Sept. 1893, 362	5	..	5
Roberts ²	Proc. Philadelphia Co. Med. Soc., 1892, 490	1	..	1
Lanphear ²	Pacific Medical Journal, 1892, xxxiv, 647	1	..	1
Hartley ²	Annals of Surgery, May, 1893, 511	1	..	1
Doyen ¹	Rev. de Chir., 1893, 391	1	..	1
Horsley ³	British Medical Journal, 1891, ii, 1191	1	..	1
McBurney ²	Annals of Surgery, 1893, i, 516, 519	2	..	2
Parkhill ¹	Medical News, September 16, 1893, 319.	1	..	1
Edw. Kerr ¹	Journ. Amer. Med. Assoc., Feb. 18, 1893, 181	1	..	1
Fernandez ²	Siglo Med., Madrid, 1892, 804, 819; 1893, 4, 18, 36.	1	..	1
Fowler ²	Personal communication	1	1	2
Tiffany ²	Annals of Surgery, January, 1894, 47.	4	..	4
Finney ²	Johns Hopkins Bulletin, October, 1893 . . .	2	1	3
Novaro ¹	Journ. de Med. Chir. et Pharm., Bruxelles, Sept. 20, 1891.	1	..	1
Keen and	Trans. Phila. Co. Med. Soc., 1894	1	..	1
Mitchell ²	The present case	1	..	1
Stewart ¹		35	6	41

¹ Rose's method.

² Horsley's method.

³ Hartley's method.

⁴ Method unknown.

MEDICAL PROGRESS.

Cranectomy for Acute Mania following Traumatism.—PATTERSON (*Occidental Medical Times*, vol. viii, No. 6, p. 377) has reported the case of a man, twenty-eight years old, who a year previously had been kicked in the head by a horse, just in front of the right parietal eminence, and presented manifestations of acute mania. The scalp-wound healed promptly, but there had been constant headache from time of the accident. When not at work the man would rest his arms on a table and his head in his hands, at times remaining thus for hours without speaking. The pain was referred to the parietal and occipital regions of the right side. Pain was also felt in the left arm and leg, and there was numbness of the thumb and index finger of the left hand. A slight depression was found at the site of the previous injury. A portion of skull an inch and a half in diameter was removed from this situation without injury to the dura mater. The bone was abnormally thickened, and the membrane presented an unhealthy gray appearance. The scalp-wound was sutured, and healed without suppuration. For the first twenty-four hours after the operation the patient was perfectly sane. He then relapsed for a few days; but, after this, continuous improvement set in and progressed to complete recovery, although on over-exertion or on exposure to the hot sun there was complaint of pain in the head. The sensations referred to the left arm and leg entirely disappeared. The opening in the skull refilled with bone.

A Ptomain Obtained from the Urine of Influenza.—GRIFITHS and LADELL (*Compt. rend. d. Séances de l'Acad. des Sciences*, t. cxvii, No. 22, p. 744; *Centralbl. f. Bakter., u. Parasitenk.*, B. xv, No. 25, p. 999) have succeeded in isolating from the urine of cases of influenza a ptomain having the formula $C_9H_9NO_4$, possessing toxic properties, inducing marked fever and causing death in animals within eight hours. It is obtained by alkalinizing a considerable quantity of urine with a small amount of sodium bicarbonate and adding half its volume of sulphuric ether. After filtration the solution is treated with tartaric acid, which forms with the ptomain soluble tartrates. The solution is finally again treated with half its volume of sulphuric ether. Upon evaporation the ptomain will be found. The body is a whitish substance, crystallizing in prismatic crystals soluble in water of slightly alkaline reaction. It forms a chlorhydrate, a chloroplatinate, and a chloraurate. It causes with phosphorwolframic acid a brownish, with phosphormolybdanic acid and with picric acid a yellowish, with tannic acid a reddish, and with mercuric chlorid, a whitish precipitate.

Gastric Ulcer unattended with Hematemesis.—WALKER (*Lancet*, No. 3691, p. 1301) has reported the case of a woman who had been suffering with pain in the epigastrum for some time, with occasional vomiting of food, but no hematemesis. From the character of the pain, from its limitation and from its persistency, ulcer of the stomach was diagnosed. After many weeks of treatment with bismuth and pepsin and strict regulation of the diet, relief from pain was obtained, digestion went on easily, and it became possible to discontinue the medicine and relax the rigidity of the regimen. Some

time later, while under the care of another, the woman suffered from a serious illness, in which she suddenly, with a feeling described as that of impending dissolution, lost consciousness and became deathly pale. On the following day a considerable quantity of coagulated blood was passed by the bowel. Complete recovery followed a protracted convalescence.

A Ptomain in the Urine in a Case of Carcinoma of the Uterus.—At a recent meeting of the French Académie des Sciences GRIFFITHS (*La Presse Médicale*, June 23, 1894) described a ptomain that he had succeeded in extracting from the urine of a woman affected with carcinoma of the uterus. The body appears as a white substance, crystallizing in small needles, soluble in water, and of alkaline reaction. It forms a chlorplatinate, a chloraurate, and a chlorhydrate, and gives rise to a yellowish precipitate with phosphortungstic acid, a brownish precipitate with phosphormolybdic acid, and with mercuric chlorid, and a reddish precipitate with argentic nitrate. Analysis shows its formula to be $C_8H_5NO_3$. It possesses toxic properties, and is not found in the urine of healthy persons.

THERAPEUTIC NOTES.

Bone-Marrow in the Treatment of Pernicious Anemia.—FRASER (*British Medical Journal*, No. 1744, p. 1172) has reported a case of pernicious anemia in which remarkable therapeutic results were obtained from the administration of bone-marrow. The patient was a gardener, sixty years old, who presented vomiting, diarrhea, edema of the feet and ankles, moderate and irregular pyrexia, dimness of vision, retinal hemorrhages, anorexia, dyspnea, and complete prostration. For the first two weeks that the man was under observation no medicinal measures were employed. The hemocytes varied from 1,860,000 to 1,460,000 per cubic millimeter, and the hemoglobin from 28 per cent. to 30 per cent., the specific gravity being 1038. There was great distortion in the shape and variation in the size of the hemocytes, which did not form rouleaux. In the subsequent two weeks and a half, from six to twelve grains of ferrous chlorid were given daily. The hemocytes and hemoglobin steadily fell to 900,000 per cubic millimeter and 20 per cent., respectively, and the specific gravity to 1036. In a third period of eight days, from fifteen to twenty minims of arsenical solution were given daily, together with twelve grains of ferrous chlorid. Still further deterioration took place in hemocytes and hemoglobin, the former falling to 843,000, and the latter to 18 per cent.; the specific gravity remained at 1036. During a fourth period of three weeks the arsenic and the iron were continued in the doses named, but three ounces of uncooked ox bone-marrow were now given besides by the mouth. Almost immediate improvement ensued, so that at the end of this period the hemocytes numbered 1,800,000, the hemoglobin amounted to 35 per cent., and the specific gravity was 1042. The patient now began to recover strength and his appetite greatly improved. During a fifth period of twenty-six days the bone-marrow and the arsenic were continued, and salol was additionally given in doses of from fifteen to thirty grains daily. The improvement was maintained, the

hemocytes rising to 2,470,000, the hemoglobin to 55 per cent., and the specific gravity to 1047. The patient had become stronger, his complexion had assumed a pinkish hue, and there had been gain in weight. During a sixth period of thirty-two days, bone-marrow and salol were continued and the improvement progressed. The hemocytes reached a maximum of 4,130,000, though they afterward fell to 3,400,000; the hemoglobin rose to 75 per cent., but fell to 70 per cent., and the specific gravity became 1058. The blood-cells formed rouleaux, and were more uniform in size and little distorted. The patient was able to do light work without fatigue; the functions of the alimentary system were well performed; edema, pains, headache, pyrexia, and venous bruits in the neck had disappeared, and the skin had assumed a healthy appearance. During a seventh period, extending over a month, bone-marrow and ferrous chlorid were continued. The hemocytes remained, with slight oscillations, at about 3,400,000; the hemoglobin averaged from 70 per cent. to 75 per cent., on one occasion reaching 80 per cent.; and the specific gravity remained steadily at 1059. All traces of retinal hemorrhage had disappeared. During the eighth period bone-marrow, iron, and salol were administered. The improvement was maintained, the hemocytes reaching 4,000,000, the hemoglobin 85 per cent., and the specific gravity 1060. The patient was now practically in a normal condition, with good appetite and healthy appearance.

Codein-Intoxication.—DUFF (*Columbus Medical Journal*, vol. xii, No. 12, p. 538), has reported the case of a woman who suffered from ovarian pain that was particularly severe at the menstrual periods, and for the relief of which it became necessary to give large doses of morphin. To avert the possibility of a drug-habit the use of codein was contemplated. Accordingly, half a grain was given by the mouth, and a few minutes later the same quantity hypodermically. In a short time the whole body became greatly swollen, the face being intensely red, and appearing as if stung by bees. The skin was so hyperesthetic that the slightest touch on any part of the body caused the woman to cry out with pain. The lower extremities were cold and purple, the heart-sounds feeble and irregular, and the radial pulse almost imperceptible. By means of large doses of digitalis and whiskey, with hot applications, the failing circulation was soon restored, and in the course of five or six hours the woman felt as though nothing unusual had occurred. To establish the validity of the observation a small dose of codein was given on the following day, with the result of reproducing the symptoms in less degree.

A Convenient Mode of Administering Quinin.—For the ready administration of quinin to children, BOND (*Virginia Medical Monthly*, vol. xxi, No. 4, p. 343) recommends that the drug be made into pill-form with dilute acid, preferably aromatic sulphuric. The pills are crushed and mixed with a little brown sugar, placed upon the tongue dry, and washed down with a glass of water. Sweet chocolate may be used instead of sugar; or the pill may be preceded and followed by the use of liquorice-root. The same principle of procedure may, of course, be employed with other drugs to be administered to children.

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SATURDAY, AUGUST 11, 1894.

PURIFICATION OF WATER.

ALL large cities are brought ultimately to the serious consideration of methods of treating water-supplies so as to secure the removal of dangerous materials. The reckless way in which the communities of the Atlantic slope have squandered the bounties of Nature, destroying forests, wasting mineral resources, and extending cities and manufacturing-sites without any care as to the pollution of water-courses has at last brought its harvest, and now some inquiry is made as to how the pound of cure may be obtained.

The City of Philadelphia is a striking example of neglect in the matter of water-supply. Attention has been called for years to the necessity of engineering-devices for securing storage and purification, but the evil influence of jobbery has aided the tendency to *laissez faire*, and the stress is increasing each year. It is, however, not an unmixed evil that Philadelphia has done nothing in the way of bettering its supply of water until the present, for it is now possible to speak positively of plans of purification and to undertake those which are demonstrably satisfactory.

It has been clearly recognized for some years that the conveyance of disease by water is due mainly to living organisms, and it is also known

that these organisms have a comparatively brief life, and may be removed by several means. The mere subsidence of fine particles, sand, mud, etc., will carry down a very large proportion of the microbes, and by the use of a coagulant such as alum, a further purification will be attained. In fact, as far as surface-waters are concerned, it is generally found that when quite clear they are but little contaminated.

Experiments on filtration have been carried on for many years, but it was not until accurate bacteriologic determinations became possible that the inferences from experiments could be relied upon. The earlier observations recorded merely such separation of suspended matter as might be detected by the naked eye or indicated by analysis; but the essentially dangerous ingredients in water mostly elude both of these methods.

Culture of microbes in solid media affords the means of studying the effects of storage and filtration. It is admitted by most competent authorities that mere microbe-counting is far from constituting a reliable means of determining the safety of a water. To take a little water from a river or lake, mix it with sterile nutritive gelatin, place it in an incubator for some days, and then count the visible colonies will give a result of no value. If, however, repeated and duplicated cultures are made under constant conditions, with samples before and after specific treatment, storage, filtration, precipitation, etc., results are obtained which, even if affected (as they generally are) by a large constant error, are closely comparative. This is the work that has been done for the last few years and is still going on in several parts of the world.

Outside of the practical operation of filtering-systems in many cities, the work of the Massachusetts State Board of Health is most valuable. This work was carried on for several years in the laboratory upon so large a scale that the Board felt justified in establishing it in practice, and under its auspices several towns have been supplied with systems of sewage-disposal based on simple sand-filtration so efficacious that the effluent water is fit to be thrown at once into streams which serve for the supply to towns below. It must be noted that these efficient methods have been applied to actual sewage, not merely to polluted waters, and that the results are not vague or incoherent, but have been studied in many aspects. The effects of temperature, rate of operation, size and nature of the particles compos-

ing the filter, and the bacteriology and chemistry of the applied and effluent water have been noted in great detail. The process is one of sand-filtration. It has been demonstrated that sewage can be purified at the rate of two million gallons per acre per day.

The action of the sand-filter is not merely that of a strainer; biologic changes take place in it by which microbes are killed and the food necessary for their vitality destroyed.

Cities suffering from pollution of their water-supply may certainly take heart from the results just noted. Philadelphia, for instance, has an abundance of water within its own boundaries, but neither the Schuylkill nor the Delaware is of constantly satisfactory purity. With the proper filters and storage-reservoirs both these streams could be utilized, and the figures cited would show that a filter-area of fifty acres would purify the water under the worst conditions at the rate of more than one-hundred million gallons in twenty-four hours.

It is further to be noted that in the course of the studies made by the Massachusetts Board it has been found that the storage of purified water can be safely carried out. Such water does not become objectionable in taste or odor. The comparatively extended storage-facilities that Philadelphia now possesses will be available for holding the filtered water, and filters may be treated at convenient points without reference to levels, as it is easy to pump into the distributing-reservoirs.

This is not the place to enter upon estimates of cost or suggestions of construction, but a single calculation will perhaps be of interest. The number of deaths annually from typhoid fever in Philadelphia is, in round numbers, six hundred. This means certainly six thousand cases, and we will not be in error in assuming an average loss of one hundred dollars for each case. This would make a total cost of six hundred thousand dollars per annum. It would be rash, perhaps, to claim that filtered water would prevent all these cases, but the experience of London, Munich, and Berlin would justify the assumption that four-fifths of the cases would be prevented. This would give a net saving of nearly five hundred thousand dollars, which would doubtless far more than exceed the interest-charge upon the constructions required. Outside of this "business" view, it must be remembered that typhoid fever largely affects adults at the period of greatest usefulness and when family ties are most

precious and endearing. Filtration and storage of the waters at its gates are the methods of securing to Philadelphia a pure water.

EDITORIAL COMMENTS.

The Transmission of Tuberculosis from Mother to Fetus.—Since the demonstration of the bacillary origin and the etiologic unity of tuberculous processes, former views as to the hereditary transmission of the disease have undergone rather radical change. It has been assumed that what was transmitted from the tuberculous parent to its subsequently infected offspring was a peculiar, indeterminate depravity of tissue that facilitated the lodgment and multiplication of the effective causative factor, the tubercle-bacillus. Nevertheless, the possibility of direct transmission, in some cases, from mother to fetus, as occurs in the case of other infectious diseases, such as scarlatina, smallpox, yellow fever, and the like, could not be excluded. The explanation of cases of this category, and the determination of the mode of transmission, were for a time matters of no little difficulty. A sufficient number of observations, both in lower animals and in man, have now accumulated to show that the fetus may become infected by the mother through the medium of the placenta. Thus, BIRCH-HIRSCHFELD and SCHMORL (*Ziegler's Beiträge*, B. ix, S. 429; see the NEWS, July 11, 1891, p. 48) found in one case tubercle-bacilli in the placenta, in the intervillous spaces, in and between the epithelia of the villi, in the lumen of divided chorial vessels, and in capillary vessels of the fetal liver, and three guinea-pigs inoculated with pieces of fetal tissue became tuberculous. Characteristic lesions could not be discovered in the fetus, although several nodules were found in the placenta. Two additional contributions of a most suggestive nature have been made to this subject by LEHMANN. The first case (*Deutsche medicinische Wochenschrift*, 1893, No. 9, p. 200) was one of miliary tuberculosis occurring in a woman with a strong family history of tuberculosis and in the eighth month of pregnancy. The first physical evidence of the disease showed itself as a tubercle of the choroid. After death, involvement of lungs, pleura, kidneys, liver, spleen, the cerebral meninges, and choroid, was found, while in the pons and right cerebral peduncle there was an area of recent softening; the peritoneum and intestines were uninvolved. In the placenta, in three or four situations, were found circumscribed, round, gray nodules, as large as millet-seeds, both upon the uterine surface, and somewhat more deeply. Upon histologic and bacterioscopic examination these nodules proved to be classic tubercles, containing giant-cells and tubercle-bacilli. The fetus, which was dead, presented no characteristic lesions. The second case (*Berliner klinische Wochenschrift*, 1894, No. 26, p. 601) occurred in a woman suffering with chronic pulmonary and laryngeal tuberculosis. The child died ten days after birth, but no tuberculous lesions were demonstrable. Careful examination of the placenta, however, disclosed, both in its fetal as well as its maternal portions, the presence of tubercles having a characteristic histologic structure and containing tubercle-bacilli. These observations are of extreme interest and of great importance. They suggest, at least,

one mode of transmission of tuberculous disease, which may be more common than observation has hitherto shown it to be, for, unless carefully looked for, the placental lesions may readily be overlooked. The demonstration would become conclusive with the exhibition of fetal lesions.

The Unauthorized Renewal of Prescriptions.—In a communication that appears in a recent number of the *American Journal of Pharmacy* a graduate in pharmacy takes the ground that it is optional with the druggist whether or not he shall renew a prescription, even though this be accompanied by a request from the prescriber that it be not renewed without special authorization. He quotes pharmaceutic authority that such a request ("command" it is designated) on the part of the prescriber is "both useless and presumptuous." Useless it may be with a certain class of druggists, but certainly not presumptuous, for surely the druggist would not undertake to instruct the physician in the arrangement of the contents of his prescription, and the character of the directions is not less important than the quantities of the constituents. It is admitted that there is some danger in the renewal of certain prescriptions, such as those that contain poisons and drugs the use of which is likely to lead to the formation of habits, and that there is possibility of abuse with regard to others, such as are intended for common ailments, and may be transferred from one person to another, but the privilege of renewal, it is maintained, resides with the druggist, although this particular writer avers that he individually has always respected the physician's request. To do otherwise would be nothing less than a breach of confidence. Even the renewal of prescriptions in the absence of specific instructions is for the druggist to usurp the position of the physician in the treatment of the case, and to assume that the former is as cognizant of the therapeutic indications as the latter. We do not care here to enter upon a discussion of the hackneyed question of the ownership of the prescription, but if any druggist proved so faithless as to ignore our printed, written, or verbal request as to the renewal of prescriptions, we should feel called upon to warn our patients against dealing with so dishonorable and untrustworthy a person. Counter-prescribing, nostrum-dispensing, and indiscriminate renewal of prescriptions are evils of which the pharmaceutic profession were well rid, but the failure to observe the explicit instructions of the prescriber would be a breach of faith that could not be condoned and would not be tolerated. With equal right the druggist might in his judgment change the proportions, or the quantities of the ingredients, or even the ingredients themselves. We can scarcely believe, however, that there is any considerable number of pharmacists who would prove themselves so unworthy of confidence as to fail in the matter of prescriptions to comply with any legitimate request on the part of the physician, and surely the desire to control the treatment of a patient for whose welfare he assumes the responsibility cannot be considered as otherwise than legitimate.

The Proprietary-medicine Evil.—In an article in a recent number of the *Bulletin of Pharmacy* a contributor from Pennsylvania offers certain suggestions looking to the

correction of what is known in the drug trade as "cutting"—that is, the selling of nostrums and other articles of their class below established prices. The first proposition is to so amend the trade-mark laws as to abolish the right of proprietorship in medicine or medicinal preparations. The second proposition recommends the enactment of a law making it an offense punishable by fine or imprisonment, or both, for any person to sell or offer for sale any so-called patent or proprietary remedy the sworn formula of which is not registered with the Secretary of the State Pharmaceutical Examining Board, and which shall be open to inspection, unless such preparations, under certain restrictions, are prepared by a citizen registered under the State pharmacy law. It is further provided for that the manufacture or sale of proprietary or so-called patent medicines be allowed if the same be shipped outside of the Commonwealth. We can cordially indorse the first proposition and the first part of the second. The former would make the other measures unnecessary, except in so far as applies to preparations of foreign manufacture. We fail, however, to see the equity and the virtue of the condition that would permit the manufacture or sale of nostrums, providing they are disposed outside of the Commonwealth. The only way to eradicate the nostrum-evil, and with it the "cut-rate" evil, is to absolutely forbid the manufacture and sale of preparations whose constitution is kept secret and is not controllable by proper authority. The disease is a serious one; palliative measures will not suffice; the required remedy must be a radical one.

REVIEWS.

THE THEORY AND PRACTICE OF MEDICINE, PREPARED FOR STUDENTS AND PRACTITIONERS. By JAMES T. WHITTAKER, M.D., LL.D. New York: William Wood & Co., 1893.

The author of this book states in his preface that the most work has been put upon the infectious diseases. We had been prepared for this by the previous writings of Dr. Whittaker, as well as by the dedication of the present book to Drs. Robert Koch and George M. Sternberg. In looking over its pages we are disposed at first to question the advisability of devoting almost the half to infectious diseases, but as the author includes many affections commonly described with the diseases of special organs, the departure from the customary distribution of pages is not in reality as great as would at first seem. This attempt to include all infectious processes in one part, whether affecting individual organs or the general system is, perhaps, most scientific, but has many practical disadvantages.

It is true that croupous pneumonia seems to be an infectious disease, but in its clinical relations and in its treatment it stands so near to broncho-pneumonia that we are inclined to question the advisability of separating the two. The zeal to fully round the subject of the infections has led the author to include hay-fever, which, according to his own description, is not an infection at all. Syphilis is wisely included; but gonorrhœa seems to us more properly a surgical disease.

The chapters on the diseases of the digestive system are clear and practical. The discussion of functional and

neurotic disorders of the stomach might have been more extensive, however. We turn with some interest to the treatment of appendiceal and cecal inflammations, but find the author far more conservative than the majority even of our medical teachers, not to mention surgeons.

The following statement may be fairly questioned: "Purgation which secures osmosis is beneficial in salpingitis, but injurious in typhlitis. Where the bowel is itself inflamed, purgation is bad practice." Doubtless there are cases in which salines may not be used; as surely, however, there are others in which this treatment far outranks opium in efficiency.

Among the pulmonary diseases capillary bronchitis and catarrhal pneumonia are separately described. This is rather retrograde teaching. Modern pathology tends to the identification of these conditions.

The subsequent chapters, on Circulatory Diseases, Diseases of the Blood, of the Urinary Organs, and of the Nervous System, are all clearly written and interesting.

On the whole, this book is a satisfactory expression, of moderate size, of the medicine of to-day; but in places, we fear students will find difficulties that will lead to misunderstanding. It seems scarcely advisable to call pseudo-leukemia "a subvariety of leukemia" in a textbook, though some writers have made this claim in controversial papers. We cannot subscribe to the following too minute division of the hemorrhagic diathesis: "The hemorrhagic diathesis is sometimes inherited, but is usually acquired. When inherited, it must be distinguished from hemophilia, which is transmitted only in certain directions." The statement that locomotor ataxia "may follow any acute infectious fever, especially diphtheria," may be true, but the pseudo-ataxia of post-diphtheric palsy should have been alluded to in this connection, and doubtless this is generally mistaken for ataxia. In several other places we notice similarly lax expressions, and call attention to them because, though they may be accurate, they will probably confuse students of medicine, and to this extent mar an otherwise commendable work.

SYPHILIS IN THE INNOCENT (SYPHILIS INSONTIUM) CLINICALLY AND HISTORICALLY CONSIDERED, WITH A PLAN FOR THE LEGAL CONTROL OF THE DISEASE. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. Pp. 398. New York: Bailey & Fairchild, 1894.

The subject is an important one viewed from every light, and has been handled by the author in a masterly and practical manner. It is shown very conclusively, in the first place, that syphilis is not necessarily a venereal disease, but may be acquired innocently, in numerous ways, by any man, woman, and child. This is not only pointed out, but is illustrated by many clinical cases. The non-venereal aspect of the disease, and the numerous modes by which the virus may be conveyed from one individual to another, contribute the theme with which the greater part of the volume is taken up. A unique classification of the modes of infection is given, which includes over one hundred methods of transmission, grouped under three main heads: 1. In connection with household and industrial life. 2. In the case of children. 3. In professional pursuits.

One of the most interesting and valuable portions of the book is the very complete and carefully compiled chapter giving a synopsis of facts arranged in accordance with the classification of modes of infection. Thus, here are collected and classified all the cases that have been reported in which the disease was conveyed by such ways as lactation, accouchement, circumcision, vaccination, and eating and drinking from the same utensils. Infection from tobacco-pipes, surgical instruments, wearing-apparel, and many other articles is referred to. Infection by contact of finger is also illustrated by cases.

The subject of syphilis in the infant is one of the most carefully elaborated and suggestive in the book, and is worthy of attentive consideration. The modes by which the virus may be conveyed to the child are incredibly numerous, and are supported by the observations of many well-known syphilographers.

By far the most original and important chapter concerns the legal control of the disease. The author justly contends that the public health demands that individuals should be protected against this malady, which affects the innocent and guilty alike. The disease should be placed under the control of Boards of Health. It should be under legal restrictions quite as much as other contagious diseases.

Tarnowsky, a Russian authority, gives the case of one syphilitic woman who contaminated no less than three hundred men within a period of ten months. It should be regarded as a criminal offence to transmit the disease wittingly, as much so as to communicate smallpox or scarlatina. The medico-legal aspect of this question, and practical suggestions for the control of this disease, are entered into by the author, and will repay study.

An alphabetic bibliography, embracing nearly one hundred and fifty pages, and very complete, is in itself a valuable contribution to the subject. The book is replete with interesting facts bearing on the question, from whatever point the matter is viewed, and it is plainly shown that considerable syphilis is communicated in innumerable ways to the innocent.

A HAND-BOOK OF MEDICAL MICROSCOPY FOR STUDENTS AND GENERAL PRACTITIONERS: Including Chapters on Bacteriology, Neoplasms, and Urinary Examinations. By JAMES E. REEVES, M.D. With a Glossary and numerous Illustrations (partly in colors). Philadelphia: P. Blakiston, Son & Co., 1894.

If enthusiasm is communicable (that it is, there can be little doubt), no one who reads Dr. Reeves' book will fail to become imbued with a most zealous desire to use the microscope whenever possible. In glowing language the author speaks of the inestimable value of the microscope to medical science, and cites a number of interesting illustrative examples. A practical experience extending over many years (Dr. Reeves is one of the pioneers in medical microscopy in this country) enables him to speak authoritatively on methods of technique. In this little manual he has greatly simplified these, and with the book before him, anyone possessing the necessary outfit can prepare sections without much difficulty. The author's preference is for paraffin as an imbedding medium. Excellent results are no doubt obtained with it. The preparations of Dr. Reeves, some of which

it has been our pleasure to see, demonstrate this clearly enough; nevertheless, we incline to the belief that celloidin is superior. The author has devised a double stain of hematoxylin and sodium sulphindigotate, which has given him excellent results. He has also elaborated a new stain for fibrin, in which safranin is employed.

The chapter on bacteriology is concise, yet comprehensive. The special method of staining the bacillus typhosus in sections will be welcomed by bacteriologists. In the section on tumors the author adopts a classification which is similar to that of Thoma. The examination of urinary sediments is treated judiciously in a chapter of nearly forty pages. In this branch of microscopy illustrations are of special value, and it is a satisfaction to note that they have been supplied with great liberality. The chapter on the blood is good, but could be made more complete by the addition of a section on the methods of staining the corpuscles.

The book distinctly fills a place in our medical literature. Its convenient size, and the abundance of valuable suggestions contained in it, will, in our opinion, make it popular with those for whose use it is designed—students and general practitioners.

THE TREATMENT OF TYPHOID FEVER. By D. D. STEWART, M.D., Lecturer on Clinical Medicine in the Jefferson Medical College, etc. The Physician's Leisure Library, 8vo., pp. 104. Detroit: George S. Davis, 1893.

WITHIN the limits of this brochure Dr. Stewart has given a faithful presentation of the modern treatment of that widespread affection, typhoid fever. With a few words as to the etiology, the prophylactic measures to be adopted are first succinctly pointed out. Then the general management of the case is fully considered, and, rightly, the first place is given to cold bathing according to the method of Brand, which is lauded in the highest terms, in entire accord with the views of those who have had the largest experience with this method of treatment. So-called expectant and expectant-symptomatic treatment is condemned, while a strong indorsement is given to the antiseptic treatment of the disease. Brief reference is also made to the biologic treatment—*i. e.*, the use of products of the typhoid and of other bacteria. The concluding section of the book is devoted to a consideration of special symptoms and complications. The book is admirably written and cannot fail to be of service. Upon one point, however, we must express our difference, and that is the sanction under any conditions of the use of the coal-tar antipyretics in the course of typhoid fever. The very language used on pages 78 and 79 in their recommendation is an argument against their use: "Where the cold bath is inadmissible and the pack or cold sponging alone is insufficient to keep the axillary temperature within 103° F. in a patient in whom the coincident presence of mild cerebral or cardiac symptoms indicates mischief likely to result from the toxemia producing the pyrexia, moderate doses of one of the internal antipyretics, such as acetanilid, antipyrin, phenacetin, or quinin, may be cautiously resorted to." Surely one would not wish to add to an already existing toxemia the baneful effects likely to result from the administration of such drugs as antipyrin and its congeners, and which, besides, as is elsewhere in the brochure stated, tend to

interfere with the elimination in the urine of the toxic products generated in the natural course of the disease.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY: THEIR SYMPTOMS AND TREATMENT: A MANUAL FOR STUDENTS AND PRACTITIONERS. By JOHN SHAW, M.D., Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School, etc. Second edition, revised. Forty-eight original illustrations, mostly selected from the author's private practice. Philadelphia: W. B. Saunders, 1894.

THE fact that a second edition of this little work is called for within two years would seem to show that it has been regarded with some favor. Certainly it has merits as well as defects, some of which are almost inseparable from a work of this size. Very few changes have been made in the present edition, which contains exactly the same number of pages as the first edition, viz., 190. As the author has seen fit to append a bibliography after the description of each disease, it seems to the reviewer that reference to some of those papers which have been published within the last two years should have been made. We miss a description of myxedema, and do not find any reference to thyroidectomy as a means of treatment in Basedow's disease. The defects of the work are of omission rather than commission, and on the whole it is of unusual merit. Some of the descriptions of diseases are quite good. The student or physician somewhat familiar with one of the larger treatises on nervous diseases will, upon perusal of this compend, be able to refresh his memory on many points in a short time. Some of the illustrations are cleverly executed, especially figures 45 and 46, representing two types of melancholia. The publisher's work is well executed.

NEW TRUTHS IN OPHTHALMOLOGY: As Developed by G. C. SAVAGE, M.D., Professor of Ophthalmology in the Medical Departments of the University of Nashville and Vanderbilt University. Thirty-two illustrations. 8vo, pp. 152. Published by the Author, Nashville, Tenn., 1893.

THIS brochure discusses the obscurities that surround the physiology of extra-ocular muscle-equilibrium, and records a search into the uncertainties of the etiologic factors at work in the disturbance of such equilibrium.

The author has devoted considerable time to this rather complicated and not well-understood condition, and has given much study to its practical correction.

Dividing his subject-matter into three parts, in part first, he gives us his views and beliefs upon the harmonious and symmetric action of the oblique muscles, and shows why these muscles are made to rotate in cases of oblique astigmatism.

There are also studies in rhythmic contraction and relaxation for the purpose of developing the ocular muscles; thoughts in reference to the laws of projection; some clinical data upon heterophoria, operative procedures, etc.

The discomforting impression gained from the title-page and the preface does not invite detailed criticism, a task, moreover, that must be left to the specialists and the journals of ophthalmology.

DE LA MALADIE DE BASEDOW ET EN PARTICULIER DE LA PATHOGÉNIE. Par FREDERICK CHAMBERLAIN, Docteur en Médecine du Yale Medical School; Docteur en Médecine de la Faculté de Paris. 8vo, pp. 143. Paris: Henri Jouve, 1894.

THIS admirable monograph is a comprehensive *résumé* of our present knowledge of the subject of exophthalmic goiter. It contributes nothing original, but discusses fully modern notions of the pathogenesis of the disease (and these deal largely with the functions and derangements of the thyroid gland), although no opinion is expressed as to the preferable theory. Treatment is concisely considered, and an extensive bibliography is given.

THERAPEUTICS OF CHOLERA (Cholera Asiatica). By P. C. MAJUMDAR, M.D., Graduate of Medical College, Calcutta, India; Corresponding Member of the American Institute of Homeopathy, and Honorary Member of the International Hahnemannian Association, etc. Philadelphia: Boericke & Tafel, 1893.

VEHEMENT denunciation of the "Old School," with genuine Hahnemannian disdain for etiology and pathology, and extravagant claims for "New-school" therapeutics, contradicted, however, by the bewildering variety of remedies and indications later given, are the principal features of this book.

CHART OF THE OFFICIAL CHEMICAL SALTS, BOTH INORGANIC AND ORGANIC, OF THE U. S. P., 1890. Showing the Methods of Production, together with a Schedule of Neutral Principles and Phenols. By JAS. KENNEDY, Ph.G., M.D., Professor of Pharmacy and Dean of the Faculty of the Department of Pharmacy of the University of Texas.

THE title of this chart explains its uses and purposes. The table is taken from a treatise on the *Theory and Practice of Pharmacy and Pharmaceutical Chemistry*, by Profs. Kennedy and Morris.

SOCIETY PROCEEDINGS.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

FIRST DAY—MAY 29TH.

THE PRESIDENT, DR. ANDREW H. SMITH, of New York City, made some introductory remarks, and afterward read a paper entitled "Alimentation in Pulmonary Disease." He pointed out that while feeding is important in all diseases, it seems to be especially important in lung-cases. Food may have a good or a bad effect, as it is assimilated or not. The exact mode of blood-production is not yet known, nor yet where the corpuscles are formed. For perfect assimilation of food there must be oxygenation by means of the oxygen furnished by fresh air. Unassimilated food is a direct source of irritation to the economy. For full and perfect metabolism the blood must be fully aerated. An intelligent study of pulmonary tuberculosis clearly shows the folly of overfeeding, by embarrassing the diseased lungs. As little food should be given as may be necessary.

In pneumonia the treatment has consisted in forcing food on the stomach. Such efforts to maintain the patient's strength were a mistake. Harm results from crowding the bloodvessels. Double work is thrown on the heart when such a course is adopted in pneumonia and other pulmonary diseases.

What then shall the diet be in pulmonary disease? All forms of food originally were derived from the vegetable kingdom. The flesh of animals is more readily digested than carbohydrates. Nourishment should be given in small quantities and repeated frequently, but there should be no forcing of food on an unwilling stomach. Water should be given freely. The instinctive feeling of the patient may be relied on as to what will keep the blood fluid.

In chronic pulmonary disease high nutrition is necessary, as in fibroid lung. In such cases the patients are almost bloodless. The pabulum from the food does not get into the circulation. Under these conditions hemoptysis occurs sooner or later. Respiration is interfered with and oxygen cannot enter the blood, and hematosis and the whole process of metabolism suffer. In treating such chronic cases animal food cannot be solely relied on. Digestion is often deranged, and a life in the open air is of immense value.

DR. SMITH reported good results from rectal injections of defibrinated blood, of which two ounces were injected at a time. As a rule no traces of blood were found in the stools after such injections.

Alcohol is believed to have a nutritive value in acute and chronic cases of pulmonary disease. When the odor of alcohol is found in the patient's breath he is getting too much.

DR. BOARDMAN REED, of Atlantic City, read a paper entitled "The Relation which Alimentation should bear to Oxygenation in Lung-diseases." He dwelt at length on the subject of forced feeding. He considered an excess of food as absolutely injurious. There should be a ratio between the oxygen inspired and the food ingested. When the in-take of oxygen is large, a large quantity of food can be assimilated. A patient with impaired lungs requires less food. Overfeeding simply results in injury, as the patient cannot assimilate the excess of food.

When fever is present in lung-cases rest of body is necessary, and this may be secured in-doors or out of doors. An abundance of fresh air is always essential.

Climate *per se* was not considered of so much importance in cases of pulmonary disease. The colder the air the better, if the patient can breathe it freely. Change of climate benefits many, stimulating nutrition.

DR. ANDREW H. SMITH, in reply to a question, said that it was his rule to have his hospital-patients lightly fed for a few days, as all acute febrile diseases are attended with a suppression of the digestive fluids. In a short time the body becomes accustomed to an abnormally high temperature and to the products of bacterial activity.

DR. ROBERT H. BABCOCK, of Chicago, said that there were two points of great importance—staying the waste of the tissues that takes place in pulmonary disease, and building up the body. The taking of fat lessens the demand for air. In lung-disease there is a diminished ability to absorb oxygen. Air, when fresh and cool, acts

as an antipyretic, and improves the assimilative powers of the patient.

DR. VAN RUCK, of Asheville, N. C., stated that he had noted marked improvement in cases in which defibrinated blood had been injected per rectum.

DR. D. W. PRENTICE, of Syracuse, N. Y., said that the amount of carbonaceous food had to be watched. He cited the case of an asthmatic who could induce an attack at will by using a full mixed diet, and could promptly check an attack by regulating the diet and restricting it to lean meat and vegetables.

DR. ALBERT L. GHON, U. S. N., mentioned the case of a tuberculous marine who seemingly got well by working in the open air, gardening—the tubercle-bacilli disappeared from the sputum.

DR. GLENWORTH R. BUTLER, of Brooklyn, N. Y., read a paper entitled "The Method and Value of Supervised Exercises and Diet in the Prophylaxis of Pulmonary Disease." He defined pulmonary tuberculosis as a disease of malnutrition, of microbial origin, to which certain persons are predisposed by undue vulnerability of the tissues. The remedy is comprised in climate, abode, personal hygiene, exercise and its corollary, rest, diet, etc. The patient must be given explicit directions as to how to live.

DR. OTIS, of Boston, warmly approved Dr. Butler's system. To-day, he said, modern gymnastics were applied scientifically. He quoted from his very large experience in Boston. All the exercises there were conducted by an expert. He saw fully five hundred young men yearly who underwent gymnastic training. Improvement resulted in all the cases.

DR. JOHN WINTERS BRANNAN, of New York City, expressed himself as strongly in favor of deep breathing and pulmonary gymnastics.

A paper entitled "The Importance of Mouth-cleanliness in the Prevention of Disease," by DR. CLARENCE C. RICE, of New York City, was, in the absence of the author, read by title.

SECOND DAY—MAY 30TH.

A paper entitled "A Plea for the Earlier Recognition of Pulmonary Tuberculosis, and the Adoption of Proper Climatic Treatment," by DR. H. B. MOORE, of Colorado Springs, was, owing to the absence of the author, read by title.

DR. VINCENT Y. BOWDITCH, of Boston, read a paper entitled "Three Years' Experience in the Sanitarium Treatment of Pulmonary Disease near Boston." The observations were made at the Sharon Sanitarium near Boston, an institution intended for working-women, the majority of patients being shop-girls.

An abundance of sunlight and pure air are provided for; every room is freely ventilated. Broad piazzas surround the building, and the patients are kept out in the coldest of weather. No carpets or rugs to entangle dust are used. The cleaning is done by passing damp cloths over the wood-work and modern sanitary precautions are taken.

Of 48 cases, 8 had bronchitis and the remaining 40 various forms of pulmonary tuberculosis; 10 had been discharged with the disease arrested. No case was said to be cured. Most of the 10 had been away for from eighteen to twenty-four months and reports from them

were regularly received. Of 8 arrested cases 7 showed excellent results. In only 3 of these were bacilli to be found. In many cases the bacilli were not found, although the patients presented other evidences of pulmonary tuberculosis, such as cough, hemorrhage, expectoration, malaise, and night-sweats.

One patient that had been under care for two years had gained 28 pounds in weight. Another that had cough and hemorrhage had gained 14½ pounds in weight in four months.

Bacilli had been found in six cases classed as improved.

DR. ROLAND G. CURTIN, of Philadelphia, spoke of observations made in the Philadelphia Hospital in the wards for tuberculous patients. In 1888-1889 the sputum of these patients contained tubercle-bacilli. In 1890, influenza appeared with the result that one-half of the old cases died. In 1891, of 28 cases, the sputum of 15 contained no tubercle-bacilli. In a number of post-mortems made, most careful examination of the tissues failed to disclose the presence of tubercle-bacilli.

DR. ROLAND G. CURTIN, of Philadelphia, read a paper entitled "Creosote, Guaiacol, and Benzoyl of Guaiacol in Phthisis." He gave a *résumé* of his experience with the several agents named, as well as the subcutaneous injection of phenic acid. The latter was very painful. Beechwood creosote and guaiacol have chemically much in common. Some patients can take large and others but small doses of creosote. Those that bear it best, as far as the stomach is concerned, show increase in weight. In acute pulmonary tuberculosis, with high temperature, no benefit was observed to result from guaiacol. The class most benefited is that whose members present slight fever and poor digestion. Dyspepsia may be cured by phenic acid. Guaiacol is used in pill-form. Guaiacol benzoyl was found to act much the same as guaiacol, and certainly no better.

DR. A. L. LOOMIS does not believe that the agents named exert any special action. In many cases patients seem to do just as well without drugs. In a certain class these improved digestion.

DR. VAN RUCK, of Asheville, S. C., said that four years ago he had used creosote hypodermically. The injections caused much pain, but had no appreciable effect on the tubercle-bacilli. Creosote is beneficial in bronchial and gastro-intestinal cases.

DR. W. M. GIBSON, of Utica, N. Y., had found that creosote had an effect on the blood, moderate doses inducing an increase of the colorless corpuscles after a meal, thus favoring a better phagocytosis.

DR. ELSNER, of Syracuse, N. Y., said that in both hospital and private practice he had obtained good results with creosote. He dwelt on the difficulty in making an early diagnosis in tuberculosis, and pointed out that the sputum does not become tuberculous until there is a cheesy infiltration of the lungs. There must be breaking down of pulmonary structure for tubercle-bacilli to find their way into the sputum.

DR. A. L. LOOMIS said that he had found tubercle-bacilli in the sputum in the absence of destruction of tissue. He referred to the case of a young man, who two years ago had quite a profuse hemorrhage while undergoing examination. Specimens of the blood and expectoration were examined, and a large number of

bacilli found, although careful physical examination failed to disclose evidences of pulmonary disease. The hemorrhage was repeated for three or four days. The man now seems well. Bacilli may lodge in the bronchi without entering the lung-tissue, while they may gain entrance into the lungs through the lymphatics and the bloodvessels.

DR. ELSNER thought that in the case cited by Dr. Loomis there might have been previous tuberculous infiltration and necrosis in the ruptured vessel.

DR. GLASGOW, of St. Louis, deemed creosote most valuable. He dissolved the creosote in a little whiskey, and had the solution mixed with cream and milk. He got excellent results.

DR. FREDERICK I. KNIGHT, of Boston, read a paper entitled "Shall Anything be Done by Legal Authority to Prevent the Spread of Tuberculosis." He pointed out that although twelve years have passed since the real nature of tuberculosis had been made public, but little seems to have been done to prevent its spread.

A paper entitled "Further Reports of Cases of Phthisis Treated at Colorado Springs," by DR. S. E. SULLY, of Colorado Springs, was in the absence of the author read by title.

DR. KNIGHT offered the following preamble and resolution:

"Whereas, The American Climatological Association was founded, among other objects, to promote the study of the nature and treatment of diseases of the respiratory organs; and

"Whereas, Tuberculosis is the most fatal of such diseases; and

"Whereas, Modern research has placed this disease among the infectious, and hence, to some extent at least, among preventable diseases;

"Resolved, That this Association strongly recommends all Boards of Health of this country to adopt measures tending to the restriction of the disease."

THIRD DAY—MAY 31ST.

DR. LEONARD WEBER, of New York, read a paper entitled "The Condition of the Heart in Diabetes, and its Relation to Diabetic Coma." He reported sixty cases of diabetes mellitus; the majority were over forty-five years old, and the larger number were in women. Two cases had occurred in children; one in a child aged twelve, following scarlatina; death ensued three months after the appearance of the disease; in the second child the symptoms followed the excessive use of potassium bromide; recovery ensued.

Of forty cases in advanced life there was none of recovery. The duration of the disease was from three to twenty years. In a number of cases it averaged ten years.

The causes of death were varied. In some fatal pulmonary complications developed; in others, disease of the kidney. Half the cases died in sub-acute coma. In these the heart was overworked and exhausted. Such cases often presented arterial sclerosis, and in them the odor of acetone in the breath was very marked.

Syncope appeared first, and was speedily followed by cardiac failure. Heart-disease is not so rare in these cases.

Neuro-muscular disease may follow diabetes—*e. g.,*

fatty degeneration of the heart, etc. Doubtless the poisonous action of the ptomaines has an influence. Some cases present gastro-intestinal symptoms. Again, the disease may be associated with chronic interstitial nephritis. The diet in such cases requires careful study.

The disease is protean in its manifestations, and every case should be made a special study. It is often associated with disease of the heart and brain and with posterior spinal sclerosis. The therapeutic indication is to reduce the glycosuria as much as possible.

Dr. Weber employs rest and massage. He attempts to get rid of the sugar by the usual alkaline treatment. If soda-solutions do not agree, he gives opium in some cases, and watches its effect on the heart and stomach. He thinks well of the method of Schott.

In cases of diabetic coma it is most important to evacuate the bowels and fill the lower colon with an alkaline solution.

DR. ROBERT H. BABCOCK, of Chicago, read a paper entitled "Report of Cases of Chronic Heart-disease Treated by the Schott Method of Baths and Gymnastics." The baths are cool, saline, and carbonated, and owe their efficacy to chlorides of sodium and calcium. They are given at temperatures ranging from 92° F. in the beginning of the course to 87° F. later on. At first the bath lasts but five or eight minutes, and as the course proceeds finally reaches a duration of twenty minutes. The baths are given daily for three days, and omitted on the fourth. Every seance is followed by an hour's rest in bed, the patient being covered up warmly and permitted to sleep if so inclined. Such a balneologic course lasts about seven weeks, and then may be repeated after an interval of a month or so if advisable. The baths exercise a powerful influence on the heart, and therefore have to be ordered in strength, temperature, and duration in accordance with the indications present in the individual case.

From sphygmographic tracings taken before and during the bath the conclusion was deduced that these baths act on the heart similarly to digitalis. On the bloodvessels, however, their action was that of a vasomotor dilator rather than constrictor. At all events, whatever be their mode of action, they slow and strengthen the pulse, render it more regular when it is irregular, cause demonstrable diminution in the size of a dilated heart, and improve the character of the sounds if they are weak or impure.

The light exercises of the trunk and extremities that form a valuable part of the Schott method of cardiac therapeutics exert the same kind although not the same degree of effect as the bath. The peculiarity of these gymnastics lies in the fact that an attendant applies gentle resistance to the movements made by the patients.

Since November 1, 1893, Dr. Babcock has subjected nineteen unselected cases of cardiac disease to this form of treatment with most gratifying results. Thirteen received a full course of treatment, and of this number nearly all experienced more or less benefit. Improvement was generally noticed, first, in relief of dyspnea and of cardiac pain and discomfort. No medicines were administered except occasionally a mild laxative or some other simple remedy to meet a particular indication of transient disturbance.

Advanced degeneration of the cardiac muscle or vas-

cular system, as aneurisms and pronounced arteriosclerosis, contra-indicate this form of treatment.

DR. W. C. GLASGOW, of St. Louis, read a paper entitled "A New and Distinguishing Sign of Latent Aneurism of the Aorta," consisting in the presence of a systolic bruit in the brachial artery. The patient extends the arm at a right angle to the body, and the auscultating ear is placed over the brachial artery, where a vibration of the artery, or a bruit, is heard in case of aneurism of the aorta. In no instance had the observation been confirmed by post-mortem examination.

DR. J. B. WALKER, of Philadelphia, related that he had noticed musical murmurs in the post-tibial which he had not associated with aneurism.

A paper entitled "Musical Nomenclature in Physical Diagnosis," by DR. J. HILYARD TYNDALL, of New York, was, in the absence of the author, read by title.

DR. CHARLES E. QUIMBY, of New York, read a paper entitled "Ozone in Phthisis, with Special Reference to the Pneumatic Cabinet." He said that for a year his remedial agents in pulmonary tuberculosis consisted of alcohol, oil of cloves, and creosote.

He dwelt at length on the powerful oxidizing properties of ozone which he described as a stimulant to mucous membranes and a pulmonary antiseptic.

The use of these agents induces a prompt reduction in temperature and yields a result equivalent to climatic influences.

FOURTH DAY—JUNE 1ST.

DR. GUY HINSDALE, of Philadelphia, read a paper entitled "The Comparative Rarity of Pulmonary Tuberculosis in the Highlands of Pennsylvania and the Adjacent Counties of New York." (See THE MEDICAL NEWS, August 4, 1894.)

DR. SAMUEL A. FISK, of Denver, Colo., read a paper entitled "Meteorological Data of Colorado." He referred at length to the many and well-known advantages of Colorado: its high elevation—one mile above sea-level; dryness of air, etc. He placed Denver among the cool climates. The winds were from the south and were dry.

HON. MARK W. HARRINGTON, Chief of the Weather Bureau, Washington, read a paper entitled "Sensible Temperature." By "sensible temperature" he meant that felt by the skin. On it depends the sense of comfort or discomfort in hot weather. High shade-temperature does not necessarily mean discomfort, if its dew-point is low. This temperature may be 127°, but the temperature felt by the skin may be 45° lower.

DR. JUDSON DALAND, of Philadelphia, read a paper entitled "Beri-Beri." He reported several cases studied at the Philadelphia Quarantine-Station. These occurred among a mixed crew on a vessel from the East Indies. The symptoms of the disease were attributed to a peripheral neuritis.

DR. ALBERT L. GHON, Medical Director U. S. N., deemed beri-beri a disease of malnutrition.

DR. WILLIAM H. DALY, of Pittsburg, expressed the opinion that the disease might be due to ptomaine-intoxication as a result of digestive fermentation.

DR. WILLIAM H. DALY, of Pittsburg, read a paper entitled "Some Practical Observations on So-called Malaria." He concluded that the malarial germ is one

of the infusoria, transmitted by impure water, in lowlands and swamps. The habitat of the germ is probably in the soil. The point was made that in malarial districts all escaped who drank pure cistern-water.

DR. WOLFRED NELSON, of New York City, related that in the island of Cuba gangs of men that slept by day and went to work at night on a full stomach never developed malaria; while the day-gangs, that slept at night, when fogs and vapors were prevalent, developed malarial fever.

A paper entitled "Shock in Acute Disease," by Dr. JOHN H. MUSSER, of Philadelphia, was, in the absence of the author, read by title.

DR. W. C. GLASGOW, of St. Louis, read a paper entitled "The Physical Signs of Cellular Edema of the Lungs considered in their Relation to the Pathological Changes." He maintained that cellular edema of the lungs is due to sepsis. The signs of the condition are at times very perplexing and contradictory. Infiltration occurs suddenly, and resolution may take place with equal suddenness.

DR. ROBERT H. BABCOCK, of Chicago, said that the condition described by Dr. Glasgow resembled a form of broncho-pneumonia described by Dr. Delafield. The disease was in the walls rather than in the bronchioles.

DR. WOLFRED NELSON, of New York City, presented a series of photographs of the Grosse-Isle Quarantine-Station, in the St. Lawrence, below Quebec. He described the situation as an ideal one—an island in the lower St. Lawrence, twenty-four miles below Quebec, four miles from one and six miles from the other shore. It is a Canadian Government-Station. Forty buildings can be used for the reception of patients of all classes, from saloon to steerage. In a crisis, 3000 can be accommodated. It is the most extensive and modern quarantine-plant on this Continent. In twenty-four hours the effects of 1000 immigrants can be rendered absolutely sterile or safe.

Dr. F. Montizambert, the Superintendent of the Canadian quarantines is in charge. He has devoted his life to the work, and has made a study of all the American and Continental Stations. He is assisted by a large staff of trained assistants—medical and lay. Reference was made to the good work in sanitation done in this country by Dr. A. N. Bell and Dr. Joseph Holt.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eighteenth Annual Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

DR. GEORGE T. JACKSON, of New York, read a paper upon "Thyroid Feeding in Diseases of the Skin," reporting three cases of xeroderma, one of ichthyosis, and one of dermatitis exfoliativa that had been treated with the desiccated powder, beginning with two grains at a dose in capsule. This was gradually increased. Unpleasant symptoms usually followed, such as headache, nausea, vertigo, etc. The skin, however, showed increased moisture and suppleness. No cure was obtained. Dr. Jackson said that he was not inclined to pursue the method further, as the results are not brilliant, and grave symptoms may appear.

DR. FOX agreed with this conclusion.

DR. HARTZELL stated that he had seen no good effects from the use of preparations of thyroid gland.

DR. STELWAGON related that he had failed to secure benefit in psoriasis, dermatitis exfoliativa, and in pityriasis rubra pilaris. He had seen edema of the legs produced.

DR. HYDE had experimented on ten psoriatics; two showed decided improvement, two were made very ill, and in the rest no benefit could be observed. He had to record, however, improvement in a case of thyroid cachexia. He begins with a maximum dose and gradually decreases.

The next paper was by DR. G. H. FOX, of New York, on "Folliculitis Decalvans." This term he thought should include the greater number of those rare affections of the scalp which would appear to belong to the same general class of disease, but which are unquestionably not the same as the alopecia areata with which we are familiar. At first there is hyperemia and the areas are tender. The follicles become plugged up, and in the more advanced stages depressed, pigmented cicatrices appear, with outlying separate follicles, indicating an extension of the disease to neighboring parts. These affected follicles become grouped and undergo the same changes, resulting in scar-tissue and consequent permanent baldness. Here and there nodules undergo suppuration, but acne is not a good term for the condition, although the term keratosis might be applicable to the follicular plugging. A ten per cent. salicylic ointment was recommended.

DR. ZEISLER had seen several such cases and called attention to the roughness of the patches from the broken off hairs.

DR. HYDE spoke of the possibility of tuberculosis of the scalp and peculiar forms of erythematous lupus, leaving cicatrices as they spread over the head. The disease cannot be simply inflammatory, or it would not result in scar-tissue. He reserved his opinion as to its true nature. Unguentum hydrargyri ammoniati had given the most satisfaction in his cases.

DR. SHERWELL had thought the disease might be a discoid lupus erythematosus.

DR. CANTRELL, of Philadelphia, read the next paper, on "Favus of the Head and Body," occurring in a young boy, showing scattered areas over the whole cutaneous surface coming on after the scalp had been affected for two years.

DR. JACKSON spoke of a case of favus of the body in which an herpetic-like ring was seen surrounded by typical cups.

DR. ZEISLER mentioned an instance presenting primary the lesions of favus upon the feet, occurring in a stableman accustomed to walking bare-footed about a stable infested with mice which probably had the disease.

DR. WIGGLESWORTH said he had experimented with Dr. White and had only succeeded in reproducing favus when the fungus was pricked into the hair-follicles.

DR. HYDE said almost any treatment was of benefit, but none could be called curative. A change from one form of treatment to another had given him the best results.

DR. SHERWELL spoke of several cases in a family in which the mice, as well as the dogs, were the sources of contagion. In one of the cases the lesions were upon the face.

DR. WHITE had seen favus of the glans penis. He contended that the disease is not an incurable one, as the numerous instances of baldness, without any sign of remaining disease, seen among Russian emigrants testified. In his practice there was one positive cure dating back fifteen years.

DR. HARTZELL mentioned Hardy's case of favus of the glans penis, in which, by means of a strong lens, a hair-follicle was found, showing it to be no exception to the rule that the part must be a hairy one to favor the growth of the fungus.

DR. ALLEN corroborated what Dr. White had said about cured instances in Russian Poles, although he had seen many instances among these immigrants in which the disease that had caused the baldness was more likely folliculitis decalvans. Until recently he had not had a case of favus of the body in his own practice, but he is now treating a mother and two children for favus of the scalp, and in one there is a lesion upon the lobe of the ear.

DR. W. T. CORLETT, of Cleveland, then read a paper upon "Cold as an Etiological Factor in Diseases of the Skin." A series of photographs were shown of cases presenting for the most part rounded lesions upon the forearms, backs of the hands, etc., which came on year after year, as a rule when the cold season was approaching, or in the winter time. Dr. Corlett believed that the influence of the climate in which his practice lay played a very important part in the production of this affection. The patches were mostly erythematous, slightly scaly, and showing little or no tendency to spread. Low temperature, air in motion, and humidity, were considered essential to its production. Though resembling in some instances herpes and in others eczema, Dr. Corlett looked upon the affection as a disease *sui generis* of the frost-bite variety, and would call it dermatitis hibernalis. Change of climate had given the best results, though suitable topical applications, and especially glycerole of tannin, had acted well.

DR. SHERWELL said some of the descriptions given suggested angiokeratoma.

DR. HYDE said all were familiar with the great influence of cold in some skin-affections, and he referred to his paper read at the Paris Congress on "Pruritus Hibernalis." Many other factors may be present. Lesions of the hands are always suggestive of infective diseases, and the gloves left over from the preceding cold season might contain the infective agent. He recommended parasiticides.

DR. WHITE would diagnosticate eczema if called upon to decide from the photographs. This, it is known, may be aggravated by cold.

DR. FORDYCE, of New York, followed with a paper on "Adeno carcinoma of the Skin starting in the Sweat-glands." A number of different pathologists have described cases of adeno-carcinoma originating in a sweat-gland, but the number of cases in which this point of departure had been proved was very limited. In the present instance the growth had started as a proliferation of the columnar cells lining the sweat-glands, breaking through the membrana propria and infecting the surrounding connective tissue. The intra-cellular bodies which are looked upon by many pathologists as the cause of carcinoma were demonstrated, and a

belief in the parasitic nature of the disease expressed, though the exact etiology has not yet been made clear.

DR. STELWAGON then read a paper upon "The Question of Contagiousness of Molluscum Contagiosum." A review of the literature of the subject was given, and the instances of seeming contagion or transfer from one individual to another were enumerated. In this way a large and convincing mass of evidence was presented and analyzed. The examples of spread in public institutions were very abundant. Accidental inoculations, as well as those experimentally produced, were related. The mollusc-bodies, it was thought, furnished the medium of contagion.

DR. HARTZELL did not look upon the so-called mollusc-corpuscles as external animal cells, but rather as altered cells of the body.

DR. ZEISLER had personally never seen a convincing instance of contagion.

DR. WHITE thought proof of the parasitic nature of the bodies essential.

DR. DUHRING believed the clinical evidence sufficient for us to regard the disease as surely contagious.

DR. HYDE had never seen an instance of transfer from individual to individual.

DR. ALLEN referred to an accidental inoculation upon his own finger after operating on a case. Two punctate tumors developed, and on removal, the microscope confirmed the diagnosis. Both auto-inoculation of neighboring parts and transfer to others were more active if a tumor had acquired some size, had softened, and perhaps suppurred. While small they seemed of little danger to others and were readily cured.

DR. FORDYCE showed the bodies in the cells, and one in the act of escaping. He said that while protozoa are not gaining in favor, as far as psorospermis is concerned, they are as regards carcinoma and molluscum.

DR. S. SHERWELL, of Brooklyn, presented a paper on "Harlequin Fetus," relating an instance of this form of congenital ichthyosis, which is usually fatal, but which, in his case, had existed for six months already, with a prospect of the child's continuing its existence. He regarded the condition as one of defective development.

DR. ZEISLER mentioned inunction with any bland oil as a palliative measure. A cure was not to be expected.

DR. HARTZELL, of Philadelphia, presented a paper on "The Protozoa-like Bodies of Herpes Zoster," and considered their relation to those of psorospermis. At a certain stage of the development of a zoster-vesicle certain bodies resembling protozoa are always to be found. Pfeiffer had first accurately described them, and Weigert had found them also in the pustule of smallpox. As the vesicle goes through its evolution the multiplication of the protozoa is rapid. They resemble in a striking way the epithelial cells containing coccidia found in the bileduct of the rabbit. Dr. Hartzell had studied these bodies found in a case of recurrent zoster following the course of the sciatic, originating in traumatism. The conclusion is drawn that the appearances arise from alteration in the epithelium, and are not due to protozoa. The presumption is that the so-called psorosperms of the disease are metamorphosed cells. The enormous growth and peculiar arrangement argue for a process of vital activity, and not for one of degeneration.

DR. WHITE, of Boston, then read a paper entitled

"Angioma Serpiginosum and Some Other Rare Dermatoses." Pitryriaris rubra pilaris he looked upon as a member of the keratoses which called for special consideration. From his experience he would consider it more frequent than the statistics of the Society would seem to indicate. *Erythème induré des scrofuleux*, resembling erythema nodosum, but differing from it in its stage of softening and suppuration, when it suggested rather the gumma, was then taken up. The lesions are more deeply seated and more uniform than in erythema nodosum, and are not like bruise-marks. They may, however, be of a dusky-purple color, and those of longer duration brownish; some become depressed, leaving disclosed cicatrices, while others disappear leaving pigment-stains only. The so-called scrofulous gumma is often strongly suggested. Remarks upon multiple benign cystic epithelioma were illustrated by a photograph showing some fifty lesions in various stages upon the face. There were flat papules having the normal color of the skin, some lesions with sunken centers, others showing crusts, while some appeared as elongated ulcers. Two such were especially noticeable near the eyes, and appeared like rodent ulcers. There were no subjective symptoms. Some had taken on the ordinary features of epithelioma. A case of angioma serpiginosum had occurred in the person of a boy, the lesions extending from the right scapula to the nipple-region as a belt three inches wide. There was an elevated creeping margin to the lesions, which was of uniform breadth and firm and smooth. The name given by Crocker was considered more appropriate than that originally suggested by Hutchinson, infective angioma. Dr. Councilman, of Boston, together with Dr. Bowen, had made histologic examinations, and they had agreed upon the name angio-sarcoma as best fitting the conditions presented.

DR. C. W. ALLEN, of New York, followed with a paper on "Acquired Idiosyncrasy for Quinin, showing Peculiar Cutaneous Manifestations." A man who had previously always been able to take quinin developed his first eruption from five grains of the sulphate, and for a number of years had the same erythematous spots in the same locations whenever the smallest quantity was given by mouth, rectum, or through the skin. With the consent of the man, Dr. Allen carried out a series of experiments extending over several years, to determine if possible the manner in which the drug acted to produce this effect. The conclusion reached was that the drug affects primarily the cord in the upper dorsal region, and he thinks that this, if verified, may lead not only to a clearer understanding of certain skin-diseases of obscure origin, but may also explain how quinin acts to produce some of its therapeutic effects.

DR. E. B. BRONSON, of New York, then gave the history of "A Case of Symmetrical Cutaneous Atrophy of the Extremities." The subject of this rare condition was a male, forty-five years old. The left ankle had first become affected fourteen years ago. From here there was a gradual extension to other regions. The knees now present a peculiar wrinkling of the skin, the folds occurring in the natural lines of cleavage. In all the atrophic areas the blue vessels shine through, giving a lilac hue. These regions are more sensitive than the normal skin. The disease is regarded as spontaneous and idiopathic. The legs and lower third of the arms

are the parts most affected. The hairs have almost disappeared from the implicated regions and sweating seems to have ceased.

DR. ZEISLER, of Chicago, presented a paper upon "The Relation of Impetigo Hepetiformis to Pemphigus Vegetans." The features common to these two diseases are very striking. Both, too, occur mostly in women and begin upon a mucous membrane. The lips were first affected in a case reported. Deviations from the type must be considered possible, and a case should not be thrown out of either category because in some unimportant detail it does not correspond with the original description. For a positive diagnosis either disease must be observed carefully from beginning to end, which in both is a fatal one. Among the many points of similarity pointed out were the etiology and pathology, about both of which nothing is known. Vegetations are not always present from the outset, but appear where moisture, friction, and warmth favor their development.

DR. GILCRIST, of Baltimore, by invitation, read an interesting paper entitled "Protozoan Dermatitis." He related the first case of the kind recorded in this country. The protozoa were shown under the microscope. They were very numerous, sixty sometimes being in the field. Twenty had been found in one giant-cell. A dog had been inoculated, the same disease reproduced and protozoa being found. Dr. Gilchrist considered the bodies found as belonging to the vegetable rather than to the animal kingdom.

DR. DUHRING showed photographs of a case of generalized sarcoma sent by Dr. Breakey, of Ann Arbor.

DR. BRONSON presented a new dermal curet and comedo-expressor.

The Association then adjourned to meet in Montreal, Canada, in September, 1895.

NEWS ITEM.

The Cholera and the Plague.—It is reported that cholera is epidemic at Canton, China. The plague is still raging among the natives and does not seem to yield to treatment, the mortality reaching 90 per cent. Forty-thousand deaths are said to have occurred at Canton since March 1.

Five new cases of cholera and three deaths were reported at Maastricht, in Holland, on August 5th and 6th. Five cases and two deaths were reported at Halfweg and one death at Haarlem.

On August 7th two deaths from cholera occurred in Amsterdam and one in Dordrecht.

Three new cases and two deaths were reported in Maastricht on August 7th.

In the six days immediately preceding August 4th there were 313 fresh cases of cholera and 240 deaths in St. Petersburg. In the six days preceding July 28 there were 159 fresh cases of cholera and 83 deaths in Warsaw.

For the Department of Warsaw the reports for the same period record 394 fresh cases and 213 deaths. All these figures covered only the reported cases.

On August 7th the captain of a steamship which arrived at Gravesend from St. Petersburg reported that one of his crew died of cholera during the voyage.

BOOKS AND PAMPHLETS RECEIVED.

Primary Syphilis and Gonorrhea in Children. By B. Merrill Ricketts, M.D. Reprinted from the Journal of the American Medical Association, 1893.

Sarcoma of the Kidney: Its Operative Treatment. By Robert Abbe, M.D. Reprinted from the Annals of Surgery, 1894.

Excision of the Hip-joint in Tubercular Disease. By B. Merrill Ricketts, M.D. A Paper read before the Cincinnati Academy of Medicine, 1893.

Operative Surgery. By Th. Kocher, M.D. With one hundred and sixty-three illustrations. New York: Wm. Wood & Co., 1894.

Some Remarks on the Refractive Value of any Two Cylinders or of Two Prisms placed at Arbitrary Angles in the Trial-frame; with the Description of a new Instrument for Finding their Sphero-cylindrical or Prismatic Equivalents, and also the Prismatic Effect of the Decentration of Lenses by a Graphic Construction without Calculation. By Carl Weiland, M.D. Reprinted from the Archives of Ophthalmology, 1893.

Naso- or Retro-pharyngeal Growths. By J. Ewing Mears, M.D. Reprinted from the Transactions of the American Surgical Association, 1893.

Cleft of the Hard and Soft Palates. By J. Ewing Mears, M.D. Read before the Philadelphia Academy of Surgery, 1893.

The Early Removal of Tubercular Foci of the Bone. By B. Merrill Ricketts, M.D. Reprinted from the Journal of Materia Medica, 1893.

Etiology of Pelvic Diseases in Women and their Prophylaxis. By X. O. Werder, M.D. Reprinted from the Pittsburg Medical Review, 1893.

The Present Status of the Treatment of Uterine Fibroids. By X. O. Werder, M.D. Reprinted from the Annals of Gynecology and Pediatry, 1893.

Proceedings of the Philadelphia County Medical Society, Vol. XIV. Session of 1893. Lewis H. Adler, Jr., M.D., Editor. Philadelphia: Printed for the Society, 1893.

Antiseptic Therapeutics. By E. Trouessart, M.D. Translated by E. P. Hurd, M.D. Physician's Leisure Library. (2 vols.) Detroit: George S. Davis, 1893.

Four Cases of Brain-tumor, in Three of which Operation was Done—Two Operative Recoveries—Ultimate Death in All. By W. W. Keen, M.D. Reprinted from the American Journal of the Medical Sciences, 1894.

Operation for Correction of Deformity of the Wrist Caused by Shortening of the Radius after Fracture. By E. S. Goodhue, M.D. Reprinted from the Medical Record, 1894.

Recent Surgical Advances and their Relation to Conservative Obstetrics. By W. Reynolds Wilson, M.D. Reprinted from the American Journal of Obstetrics, 1893.

Uterine Thrombosis following Post-partum Hemorrhage and its Relation to Puerperal Infection. By W. Reynolds Wilson, M.D. Reprinted from the Annals of Gynecology and Pediatry, 1893.

Critique of Macroscopic Examination of Specimens Removed in Thirty-two Consecutive Laparotomies. By F. Byron Robinson, B.S., M.D. Reprinted from the Journal of the American Medical Association, 1894.

Tait's Perineal Flap Operation. By F. Byron Robinson, B.S., M.D. Reprinted from the Chicago Medical Recorder, 1893.

Annual Report of the President of Harvard College, 1892-93. Reprinted from the Annual Reports of the President and Treasurer of Harvard College. Cambridge: Published by the University, 1894.

Conservative Surgery of To-day in Obstetrics, Abdominal and Pelvic Work. By J. G. Carpenter, M.D. Reprinted from the American Practitioner and News, 1893.

Vasomotor Ataxia: A Contribution to the Subject of Idiosyncrasies. By Solomon Solis-Cohen, M.D. Reprinted from the American Journal of the Medical Sciences, 1894.

Bureau of Education. Circular of Information No. 8, 1893. The Spelling Reform. By Francis A. March, LL.D., L.H.D. Washington: Government Printing Office, 1893.